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Report of the Annual Meeting of Assessment-related Working Group Chairs (AMAWGC)

19–23 February 2007

ICES Headquarters

International Council for the Exploration of the Sea
Conseil International pour l'Exploration de la Mer

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H.C. Andersens Boulevard 44–46
DK-1553 Copenhagen V
Denmark
Telephone (+45) 33 38 67 00
Telefax (+45) 33 93 42 15
www.ices.dk
info@ices.dk

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Executive summary

The ICES advice on fisheries is changing. It will address the practical situation of fisheries management better by being both stock and fisheries-oriented and by increasingly including ecosystem considerations (both "upstream" and "downstream" effects). In order to introduce these changes there is a requirement to develop the necessary approaches and methodologies to be implemented by the working groups. These changes will allow ACFM to have the relevant input required to address new aspects of the advice. Inputs of additional information on ecosystem related issues and management strategy evaluations are produced by the SGMAS and WGRED. The AMAWGC group serves as the interface between this work and the assessment working groups. The chairs of the SGMAS and other relevant experts introduce these approaches to the chairs of assessment working groups. AMAWGC is a forum to discuss and decide on the implementation of these matters within the course of WG meetings in 2007.

AMAWGC 2007 has focussed on the following areas of work:

- Disseminating results of relevant working groups (section 1.3)
- Evaluation of management strategies (section 3)
- Incorporation of ecosystem aspects in fisheries advice (both environmental drivers and fisheries effects on the ecosystem) (section 4)
- The incorporations of mixed fisheries issues into the advice (section 5)
- Updating biological reference points (section 6)
- Improving stock assessment practices and processes (section 7)
- Reform of the advisory process (section 9)

The conclusions and recommendations of AMAWGC 2007 are summarized in section 10.

1 Introduction

1.1 Terms of reference

The Annual Meeting of Assessment-related Working Group Chairs [AMAWGC] (Chair: Martin Pastoors, The Netherlands) will meet back-to-back with WGRED at ICES Headquarters from 13:00 on 19 February until 13:00 on 23 February 2007 and in the margin of the ASC 2007 to:

a) review the Table of Contents for the ICES Advisory Report for 2007 and for each Chapter identify what the Groups that shall contribute;

b) review and plan the implementation of long-term management simulations and evaluations of recovery plans and harvest control rules;

c) review and plan the implementation of the results of the Working Group on Regional Ecosystem Description (WGRED) in the ICES advisory process regarding fisheries with a focus on the feasibility of including ecosystem drivers into the stock assessments and on assessing the effects of fisheries on the ecosystem. Provide input to the scoping meeting for the Workshop on the Integration of Environmental Information into Fisheries Management Strategies and Advice (WKEFA) that will be held in parallel with AMAWGC.

d) review and plan the implementation of fisheries-based advice by the Assessment Working Groups and integration of fisheries technology expertise, using the results of WKMIXMAN;

e) review and plan the implementation of the updating of precautionary limit reference points (e.g. Blim and Flim) and potential target reference points based on the results of SGMAS and WKREF.

f) review developments in stock assessment methodology in relation to the implementation in the Assessment Working Groups;

g) Update the road map of where the individual WGs should be moving in the medium and long term. This should include issues like management strategy evaluations, mixed fisheries issues, ecosystem drivers and impacts, assessment methodology and data collection..

AMAWGC will report by 2 March 2007 for the attention of ACFM.

1.2 Structure of the report

The structure in the report is very simple: the sections follow the Terms of Reference for AMAWGC 2007. The AMAWGC meeting was held from Monday 19 February until Friday 23 February 2007.

The AMAWGC meeting overlapped with the WGRED meeting and there was one joint session between AMAWGC and WGRED and a number of informal sessions.

The Scoping group for the Workshop on the Integration of Environmental Information into Fisheries Management Strategies and Advice [WKEFA] (Co-chairs: Manuel Barange, UK, and John Simmonds, UK) met on 21–22 February at the ICES headquarters. There were two joint sessions between AMAWGC and WKEFA.

1.3 Reports of relevant working and study groups

Rappporteur: Beatriz Roel

1.3.1 WGMG

The ICES' Working Group on Methods of Fish Stock Assessment [WGMG] was established to provide a forum for the development of new methods and the investigation of the properties of fish stock assessment methods. Sound assessment methods are a basic requirement for the provision of sound and credible advice, and the group is regularly tasked by the ICES' Advisory Committee on Fishery Management [ACFM] to address specific problems identified by ICES' stock assessment working groups.

The ToRs for the coming meeting (Woods Hole, 13–22 March) are the following:

a) investigate further, and test, the sensitivities of stock assessment methods to known data problems with particular reference to the retrospective problem;
b) operationalise methods to include discard data in stock assessments;
c) review developments in fisheries-independent (e.g. survey-based) assessment tools;
d) evaluate the current state of operational evaluation tools for fisheries management options;
e) provide guidance on incorporation in assessments of estimates of variance in input data; and
f) provide guidance to assessment Working Groups on the inclusion of variable weights and maturities in assessments, predictions and management simulations.

WKREF and AMAWGC proposed additional terms of reference which included to review sensitivities of segmented regression e.g. to small changes around origin, to evaluate implicit HCR of ICES PA advice and to evaluate generic properties of 15% catch stabilizing regimes.

1.3.2 WGECO

A major issue considered by the group in 2006 (ICES, 2006a) was a review of the effects of fishing on the North Sea ecosystem.. It reviewed the impacts of each of the major gears in terms of their effects on all components of the ecosystem, and for the first time since 1995 have described the international distribution of fishing effort of beam trawls, otter trawls (including seine gears), and small-meshed fisheries throughout the North Sea.

Last year WGECO (ICES, 2005) identified the need for fully Integrated Ecosystem Assessments to link manageable human activities with the pressures they cause in the marine ecosystem.. Indicators which might be appropriate for managing the human activities responsible for these pressures were identified.

In their 2005 Report WGECO (ICES, 2005) presented a detailed analysis of how ecosystem effects of fishing could be included into the provision of routine fisheries advice. They also identified ecosystem considerations that should be taken into account in an ecosystem approach to fisheries management, and suggested that these should be part of routine activities not an optional extra. Where knowledge or data were inadequate, WGECO identified the work to be undertaken so that improvements can be made.

WGECO has advised on the development and implementation of the Ecological Quality Objective (EcoQO) approach in OSPAR for several years, and feels that ICES is now in a position to provide clear advice on a way forward with implementing the EcoQO on changes in the proportion of large fish in the fish community. This EcoQ element, as measured in research trawls, is a useful indicator of the effect of fishing, a useful state indicator for the fish community and is indicative of wider changes in the biodiversity of the ecosystem. WGECO concluded that the EcoQO can be further progressed as part of an objectives-based management framework and so has defined a goal for the fish community to halt as rapidly as possible, and begin to reverse by 2010, both the decline in the mean weight and the proportion of large fish . Large fish were defined as those greater than 30cm in length, and short, medium and long-term operational targets were suggested. In the short-term it is suggested that the decline in proportion of these fish size measures in survey catches should be halted immediately. In the medium term, targets for fish size should be based on the time necessary to restore fish populations to conditions in the early 1980s when ICES generally considered stocks to be sustainable. In the longer term, targets could be revised using improved information on the ecological consequences of an over-fished fish community and societal choices for more or less ambitious conservation objectives.

ICES have begun a dialogue with the Regional Advisory Councils (RACs) to develop an understanding of their requirements for advice and how this advice might be provided. A summary of the ecosystem effects of fishing for all components relevant to the North Sea RAC and the intention to extend this approach to the other RACs was presented by WGECO. Although not comprehensive, it highlighted the many interactions between fisheries and ecosystem for which ICES lacks knowledge to provide quality advice. While many effects can be generalised across the region, most specific studies relate to the North Sea and Baltic Sea, and in many cases, the extent of the effect will depend on the nature and scale of the fishing activity in an area. ICES currently lacks the capacity to deal with geographically referenced data and this skill will become increasingly important as advice is requested on a range of geographically-related fisheries management measures.

This year WGECO continued to assist the Regional Ecosystem Group for the North Sea (REGNS) in their work on an Integrated Assessment.

1.3.3 SGASAM

Purpose of the group was to address issues concerned with introducing length-structure into stock assessment models:

- Model complexity
- Incorporating sub-process models
- Numerical implementation
- Model Fitting
- Practical use of models

A summary of what was done in 2006 (ICES, 2006b)was presented, that included work related to methodological developments: traditional size-transition matrix approaches still being developed e.g. GADGET type model and methods using the 'Lagrangian' approach e.g. Stock Synthesis. Another area of work included stocks with limited age-structured data where various models for hake were considered. It was also stated that the assessments of Nephrops and some elasmobranchs could benefit if more recent growth data became available.

It was agreed amongst the members of the Study Group that it will not continue in its present format. The Study group considered the possibility of a new focus such as growth modelling/ other process models or alternative methods of stock assessment (i.e. not age-structured). Age-length structured models could perhaps be considered in the Methods WG however, given many other ToRs that WG may not be able to give them any priority.

Discussion. The need to develop assessment methods for data-poor stocks or stocks that lack age data was highlighted. ACFM does not consider that SGASAM has delivered a final product. Further, models that do not rely on age data are still needed. It was suggested that ICES looks elsewhere, including the results from EU projects to find out about assessment models that do not rely on age-structured data. A way forward could be to focus on some case studies. A Study Group within Methods could address specific questions.

1.3.4 SGMSAM

The Study Group on Multispecies Assessment in the North Sea (SGMSNS) has now merged with the Barents Sea multi-species group with the intention of covering a broader geographical area and to encourage participation of groups working on multispecies modelling in other ICES areas, most notably the Barents Sea, Bay of Biscay and Iceland as well as the North Sea. Then new group will meet in October.

SGMSNS convened in February 2006 (ICES, 2006c) and was mainly tasked with: (i) exploring the potential utility and extent of existing stomach data held in national databases and not currently used for modelling, (ii) to examine the shortcomings of existing multispecies modelling approaches and the underlying stomach data available, (iii) consider the statistical properties of the stomach data available, and to draw conclusions about necessary levels of sampling in the future, (iv) design a new stomach sampling programme, and provide a detailed work-plan, (v) where possible, update information within 4M with regard to seabirds and marine mammals.

It is clear from searches of national databases that extensive sampling of stomach-contents continued after the 1991 ICES 'Year of the Stomach'. Recent projects in Germany, England, Scotland, Denmark and Norway have all yielded substantial quantities of data, although this has largely been restricted to sampling on small geographic scales, and limited in terms of season and predator species. Such data cannot be used to parameterise North Sea-wide 'suitability coefficients', as required in conventional models such as 4M, but this information might be useful for parameterising 'process' models or characterising particular interactions (for example between grey gurnard and juvenile cod). In addition, data were located from the

period prior to the first ICES Year of The Stomach in 1981. This data might be useful for detecting long-term changes in feeding preferences in the North Sea and for conducting 'hindcasts' into a period of unusually high gadoid abundance in the 1960s and 1970s.

SGMSNS discussed the potential benefits of multispecies modelling generally, and these included: (a) the ability to provide better mid – and long term projections, (b) the necessary examination of 'maximum-sustainable-yields' in a multispecies context, (c) the ability to anticipate the impact of changing prey populations on dependent wildlife species, (d) the ability to anticipate the impact of emergent or resurgent species on food-webs, (e) to evaluate the food-web implications of spatial management strategies (e.g. MPAs).

The SGMSNS highlighted the fact that the distribution, size-structure and overall abundance of particular predators and preys had changed significantly since the 1991 ICES 'Year of the Stomach' survey and that it is becoming increasingly difficult to make accurate predictions. In addition, several important predators were unsatisfactorily sampled in 1991 (e.g. saithe, mackerel), have only been sampled once (grey gurnard) or have never been adequately sampled on a large-scale (e.g. dab, common seal). The existing stomach data is known to exhibit certain clear biases, most notably the ICES Year of the Stomach programme included no sampling during the night, in inshore waters or over rocky ground). Predation on larvae and pre-recruits has also been largely ignored to date.

Analyses of the statistical properties of existing stomach data revealed that variability in the data was closely linked with the number of samples taken, and that an increase in sampling compared to the 1991 level would be beneficial for most species but particularly saithe. It is essential to have at least 200 hauls in which a specific predator is found. Smaller sampling efforts will lead to a loss of prey entities and a significant increase in the uncertainty of the diet estimate. This means that for some predators which have decreased since 1991 (e.g. large sized cod), supplemental sampling might be needed. SGMSNS discussed issues concerning the design of a future stomach-sampling programme.

Substantial effort was expended in trying to update information on seabirds in the 4M model, in collaboration with representatives from the Study Group on Seabird Ecology (SGSE).

SGMSNS provided a brief response to a request from AMAWGC (the Annual Meeting of Assessment Working Group Chairs), received during the meeting on 21 February 2006. The group was asked to comment on whether or not it thought that predator weight-at-age would be affected by low prey (sandeel and Norway pout) availability in the North Sea, as experienced in recent years. The group reviewed work conducted by its predecessor, the Multispecies Assessment Working Group (MAWG) in 1991 and 1992, and promised to return to the issue at its meeting in 2007.

Discussion in AMAWGC centered on the utility of stomach data collected and the great expense that will imply for the National laboratories. There was consensus in the meeting that an ecosystem approach was going to prevail in the advice species interactions will have to be taken into account. Further, information on species interactions were often requested at the level of the National advice.

1.3.5 PGCCDBS

The aim of the group has been to discuss several issues related with coordination of biological sampling in Europe, in particular within the scope of the EU Data Collection Regulation (DCR). In their last meeting (ICES, 2006d) the PG decided to focus on: clarifying the way PGCCDBS can be operationalized within the ICES system; develop on tasks that were clearly identified as problematic and for which the PG had the expertise to provide useful advice and actions; answering requests addressed by other groups.

On the issue of data quality the discussion focused on the compilation of information, improvement of communication within the biological sampling system and the development of software tools for data analysis. The compilation of manuals and standard operational procedures was considered important for future work and the PG proposed its development online using the PGCCDBS unofficial website. The communication within the several bodies involved in DCR was addressed has a central problem where there is still a long path to achieve an efficient level of coordination. The PG discussed the information flow and develops a two step procedure for the flow of the information from data-providers to datausers:

(i) provide a detailed description of the sampling scheme/raising procedures etc.; (ii) provide a yearly report with information about the achieved sampling by stock. Within this system the PG considered there is also the urgent need to develop a procedure for ensuring that Assessment WGs are more actively involved in both requesting information that they need and communicating back their assessment of the data quality. The development of software for data analysis was considered crucial for efficient assessment of the data quality.

Several issues on the organization of workshops for biological parameters, in particular on ageing calibration and maturity sampling, were discussed. It was considered that age readings and, in particular, maturity staging calibrations are required for several species. Workshops to deal with these were proposed for 2007. It was also considered of major importance that comparisons between readers in ageing workshops be planned from the start of the exchange and carried out using the principles of designed experiments. A strong request for the publication of these reports was made to avoid loosing all the information and experience build in each of these meetings.

The PG supported the development of the project proposal "Discard Atlas" and is of the firm opinion that this would serve as a suitable tool to further develop on the revision of the discard data collected during the first three years of sampling and develop methodologies for estimate discard rates.

Besides the biological parameters workshops proposed a set of methodological workshops were also proposed dealing with specific issues considered of major relevance, those are:

- Workshop on the Use of UWTV Surveys for Determining Abundance in Nephrops Stocks throughout European Waters;
- Workshop on Sexual Maturity Sampling;
- Workshop on Discard Raising Procedures; and
- Workshop on Using Fishermen to Sample Catches.

Concern was expressed by AMAWGC that duplication could occur between PGCCDBS and DCR as it appeared there are two different bodies involved in data collection. The importance of stating what was the data used in the assessment and what is the quality of the data was highlighted. The difficulties in setting realistic quality standards and in measuring quality were mentioned in the discussion.

2 Table of Contents Advisory report 2007

Rapporteur: Frans van Beek

The Advisory report will consist of a general section including a foreword and a general introduction to the advice. The structure of the report is described in more detail in Working Paper 16 . The actual advice will be given in ecoregion based sections. These include the following elements:

- a ecosystem overview prepared by WGRED

- a section on the human use of the ecosystem prepared by WGRED and complemented and updated by ACFM
- a section of assessment and advice (mixed fishery advice) to be prepared by the WG and updated and completed by ACFM. This section will also deal with special requests.
- stock summaries (first draft provided by the WG)

Stock summary

The WG experts are requested to provide a first draft of the ACFM summary sheet which will be the basis for the ICES advice. The summary sheets consist of the following elements which were discussed by AMAWGC.

- state of the stock (tables and text) short description of the status of the stock; more precise guidelines by ICES will follow
- management objective: In order to improve the readability of the report give a summary of the agreed management plans in normal English. This differs with previous report is that the full legal text is not exposed here. The full legal text should also be given in an Annex.
- reference points: It is proposed to merge the two tables with PA and limit reference points and the technical basis for these into one table (example will be provided). Include the year where the reference points were establish. If reference points have not been defined, an explanation is required.
- Until so far also other reference points such F.01, Fmsy or Fmax are required. A note from the rapporteur: In the past F0.1 and Fmax were frequently proposed by ICES as candidates for target reference points. Also the technical basis for the calculation of these should be provided. The reference points are in the section because of a request by EU and are presently used in defining management targets
- There was considerable discussion in AMAWGC whether advice on target reference points should be based on Y/R calculations using exploitation patterns which are presently often directed to young age groups and are associated with large proportion of discards. It was also questioned whether F0.1 and Fmax are the best proxies for Fmsy.
- Single stock exploitation boundaries: The main discussion was on the lay out of the forecast table and the discussion ended undecided. The forecast table can be simplified for instance by getting rid of ranges of options with relative reference to Fpa, Fsq or Ftarget. Also columns with and percentage change were considered redundant. It was considered that all options could be presented in a graph. However, there are many cases where manager have asked for more options than provided by ICES. No final decision taken on the new format.
- In order to take account of uncertainty in the forecast, they may be provided as probabilistic. For probabilistic forecasts there are no standard procedures and formats have to agreed yet (the Canadians used it, we can learn from it?). There is a need for an expert group to propose a consistent approach. Before WG are going to use this they need clear instructions what to do.
- management considerations: The content should deal with what management should consider and not what we consider interesting information. This section includes an evaluation of existing management plans and ecosystem consideration of the effect of the fishery on this stock on the ecosystem (discarding, bycatches, no effects, habitat, spawning habitat). note from the rapporteur: An example given by AMAWGC would be useful.
- factors affecting the fisheries and the stock: This section has potential to repeat and to be contradictive with a similar section in the overview. Items to deal with area effects of changes in regulation on this stock. Do not only list the regulations but describe the effects of it; changes in fishing technology and fishing behaviour

(economic drivers also?), environmental impacts on this stock. Distinguish between proved facts and speculations.

- scientific basis; contains listing of data and methods, uncertainty, comparison with previous assessment and advice. Comparison with previous assessments spaghetti plots are provided by the ICES secretariat.
- Take care in using the word uncertainty. Uncertainty is often not treated the same in different stock summaries. Most assessment are uncertain (at least in estimating point values) but not in estimating the status of the stock and the directions it has developed. The use of the wording is an area for ACFM to be consistent. Uncertainty in general should be also dealt with in the overview.

AMAWGC discussed some elements of a further development of the advice. It was proposed to include information on stock structure in the advice. Many long lived species now exists in stocks consisting only of a few age groups. Diversity in size structure of a stock is considered important as different size groups play different role in ecosystem. Also spawning duration, quality and success will be affected by the size structure of the stock. AMAWGC considered the need to develop specific indicators how to present the information in the report as a basis for a advice. An example could be the number of age 10+ is the stock or in the catch. Future indicators could be related to fishing (exploitation) pattern and maturity at age. The WG are invited to develop ideas on presenting the information of stock structure and to develop indicators for the state of the stock including age or size diversity. It was recognized that these indicators could also be developed for non aged species and poor data stocks.

The WG are further requested to give feed back on

- the implementation of intercatch
- evaluation of management plans
- collection on mixed fishery data both in terms of catch composition landings discards and effort
- how they dealt with special requests

3 Evaluation of management plans

Rapporteur: Mark Dickey-Collas

Dankert Skagen presented the study group on management strategies. The SGMAS report (ICES, 2007a) covered:

- Role of science in management plan development – experience from past and ongoing developments.
- Indicators in data poor situations
- Communication and the role of ICES

SGMAS hoped to synthesize the work from many ongoing ICES groups: WKEFA, SGMIXMAN, WKREF, WGSAM, WGMS etc.

Many stocks have been investigated and the report documented recent experience and improvements in understanding. The process of developing a management plan can be triggered in many ways: concern for the resource, a way to settle disputes or political pressure. The major driving forces tend to be managers, industry and more so the RACs, only occasionally science. During development it is better to “ask about” rather than assume any factors, don’t get stuck on one idea and keep thinking in a broad manner and keep things simple. In all cases, you should be able to programme the rule.

There are three stages for development of management plans:

1) preparation (in which understanding is shared)

2) development (in which trade offs are shown, specific technical problems are investigated, management begins negotiations)

3) scrutiny and agreement.

There are simple rules (related to one factor), multiple rules (eg trigger SSBs, limited TAC change and constrained by F) and complex rules (which become more difficult to model and sometimes contain paradoxes).

Data poor situations. Indicators are commonly used in the ecosystem world, but may be applicable in the fisheries world (eg. mean or max length in the catch or stock, distribution of the stock). This is a promising and developing field but there is a need for greater understanding. The methods for the evaluation indicator rules are still in development. Likely to be used with fixed quotas or effort, with indicators acting as triggers to change. Understanding the link between the stock and the indication still needs a lot of work.

In developing management plans remember that dialogue is crucial. Resources are needed and acceptable risk needs to be agreed. Science boundaries must be acknowledged. All stakeholders need to be in the dialogue, and a structured discussion is seen as more advantageous. Remember that the same people may have different stakeholder hats on at different times. The ICES role has so far been evaluating the management plans, but it could also provide a forum or platform to allow the development of management plans.

Discussion

The role of ICES in the process is still a little unclear, but people should remember that ICES has a large amount of experience to offer the process.

Timing, different simulation programmes use different time triggers, so this is an area that needs more attention.

Who stimulates the development of management plans? It is hoped to use the NEA mackerel as a case study. There are a diverse range of stakeholders that have stimulated the development of management plans. All of these however must involve dialogue.

Evaluation of management plans are labour intensive and require resources, therefore it is often difficult for scientists to stimulate the development.

In some instances, RACs have used WG work as an indication that ICES agrees with management plans, when it is not the case. This shows that dialogue is crucial and is often lacking from stakeholders other than scientists.

How can WGs deal with the 15% TAC constraint rule proposed by the EC? The ability to evaluate this proposal may be difficult, but a generic approach involving an investigation of the recruitment dynamics and the stability of the age stricture of a stock may be a better approach, rather than trying to evaluate each stock.

SGMAS did not look at long term management approaches. Most investigated by SGMAS looked at 5 years horizons.

What are the plans to look at multispecies or ecosystem approaches? The indicator approach may give us valuable tools, but further development is needed. The indicator approach is in an early stage and much more work is needed. The development of methods is crucial as shown by the paper of Punt *et al*. (2001). A trade off must be made between data availability and the provision of advice.

How proactive should scientist be? Science shouldn't be isolated from the rest of the stakeholders. Conservation may not be the only issue, political will on issues such as quota shares is also necessary. WGs can be a forum for development of management strategies but

this must fit into the overall work of the group and be within the AMAWGC road maps and generic terms of reference.

The session concluded with the following highlights from the discussion:

- It is better to ask than to assume
- Dialogue is the mantra, and this may go beyond the role of a WG, and it requires large commitment from all stakeholders

Practical issues

NEA mackerel – work with EC and ICES scientists and draw from experience with western horse mackerel

The EC 15% TAC constraint rule: ICES needs to develop a generic approach to that rule. AMAWGC **recommends** that the WGMG evaluate the generic properties of a 15% TAC change harvest rule.

4 Ecosystem aspects in fisheries advice

Rapporteur: Jim Ellis

4.1 Introduction

TOR c was to "Review and plan the implementation of the results of the Working Group on Regional Ecosystem Description (WGRED) in the ICES advisory process regarding fisheries with a focus on the feasibility of including ecosystem drivers into the stock assessments and on assessing the effects of fisheries on the ecosystem. Provide input to the scoping meeting for the Workshop on the Integration of Environmental Information into Fisheries Management Strategies and Advice (WKEFA) that will be held in parallel with AMAWGC."

4.2 Working Group for Regional Ecosystem Description (WGRED)

Jake Rice gave an overview of WGRED's TORs and activities

a) For each Eco-region to be used in the 2007 ICES advice, review drafts of Ecosystem Overviews that have been prepared by teams of experts from fisheries and environmental laboratories in each Eco-region, coordinated by a designated WGRED member from each Eco-region, for clarity, accuracy, consistency, and usefulness in the ICES Advisory Reports, and revise as necessary;

- Eco-region reviews will be updated where necessary.
- The report will include a new overview of the pelagic ecosystem, including the highly migratory stocks of certain pelagic species (mackerel, horse mackerel etc.). Large pelagics were not considered as this was outside the main areas of expertise of the WG.
- Iceland and Greenland areas will now to be treated separately.

b) Identify and document any major environmental or anthropogenic events in each of the Eco-regions that should be taken into special account in ICES assessments and advice in 2007, and to the extent possible recommend ways in which this information could be used by Expert Groups and Advisory Committees;

- WGRED have reviewed the general warming of the coastal areas of the NE Atlantic, including the North Sea, Northern shelf and part of the southern shelf areas (including water temperature, plankton indices and NAO)
- This may affect various reproductive/productivity parameters in some stocks, and there may have been either a gradual change or step change in such parameters

since the mid 1980's. If there has, it may be more appropriate to use recent estimates of such parameters

- Effects on recruitment should be examined during assessments, and this is typically done through recruit indices
- There is some evidence of distribution shifts, and these are also typically incorporated in assessments
- The implications of these changes may also include low recruitment pulses of some stocks in the short term, and more fundamental changes in ecosystem in the longer term.
- Future work should include examining CPR data.

c) Review and report on the work undertaken inter-sessionally to test the robustness of harvest control strategies to environmental forcing, for selected case histories proposed in Section 4.6 of the 2006 WGRED report (ICES, 2006e), or alternatives as available, and to the extent possible recommend improvements to practice in use of harvest control rules in ICES assessments and advice;

- WGRED will examine capelin in the Barents Sea as a case study

d) Review and report on the progress made by the Cod and Climate Change and REGNS initiatives, in the context of current practice of assessment working groups and other expert groups, with the objective of identifying opportunities to alter assessment practices to operationalize the results of that initiative. To the extent justified by the results, recommend improvements to practice in assessment working groups, including revised or new Terms of Reference for various groups;

e) Review the major on-going research projects in the ICES area, including but not exclusively ones funded by EU-funding sources, whose results are likely to be relevant to including environmental and ecosystem considerations in assessments and fisheries advice, and develop and report on a schedule for conducting work similar to ToR d) for the other research projects.

- WGRED also considered that although environmental issues are high on the agenda, there were still certain 'big issues' that ICES should highlight (e.g. trends in SSB and F for stocks at low levels; discarding etc.).

4.3 Workshop on the Integration of Environmental Information into Fisheries Management Strategies and Advice (WKEFA)

John Simmonds gave an overview of WKEFA's TORs and activities:

An initial scooping meeting will:

a) assemble and evaluate a small number of illustrative case studies in which environmental factors can be shown to have had a significant impact on exploited fish population dynamics, including information on the processes which may be responsible;

b) evaluate the availability of data/ information and define necessary work/ actions to be taken before the main WK

and the subsequent main workshop will:

c) estimate the consequences of environmental variability (including "regime shifts") for the biological reference points and other measures which are currently used to guide fisheries management;

d) carry out analyses and formulate short, medium and long term integrated advice for the selected cases. Compare this with traditional methodology

e) bearing in mind possible fisheries and ecosystems objectives, identify, develop and evaluate procedures for improving fisheries management strategies and advice by including environmental information. Identify future directions and needs, including operability, to bring forward the process of incorporating ecosystem advice.

- The workshop is expected to attract scientists from a variety of disciplines, including oceanographers, as well as members of multispecies groups and assessment WGs. The various case studies, which will be prepared prior to the workshop, so that the workshop can focus on the implications for the provision of short and medium-term advice (i.e. identify some of the issues involved in using environmental information to improve fisheries management advice and integrated advice, such as reference points, projections and harvest control rules).
- The case studies will likely include certain stocks of pelagic fish (e.g. anchovy, sardine and herring) and cod, though other taxa (e.g. salmonids) were also suggested. These stocks will be examined in relation to environmental factors such as temperature, NAO, upwelling indices, food, habitat etc.
- AMAWGC suggested that case studies of other types of fish (e.g. flatfish) could usefully be included if possible. The potential for examining the role of other environmental issues (e.g. disease and eutrophication) was also raised, as were other components of the ecosystem (e.g. jellyfish).
- In terms of incorporating such information into short-term advice, WKEFA was noted that biological parameters such as growth, maturation, natural mortality and cohort effects can/should be taken into account, with recruit surveys incorporating a part of the environmental signal. The effects of extreme effects and the implications on short-term advice may also be considered if suitable case studies are forthcoming.
- In the medium term, there are several issues that will need to be examined, such as should there be changes in the probability of recruitment, mortality or growth; should spawning potential be more than just SSB, and are multi-species interactions/environmental drivers leading to changes in recruitment and production? If so, do we need to develop reference points/management strategies etc. for different environmental scenarios/regimes?
- It was also discussed that a variety of environmental issues (e.g. oceanographic/climatic signals, as well as habitats, biodiversity issues and MPAs) were becoming an increasingly important in parts of the ICES area and that integrating fisheries advice within advice on such other aspects of the ecosystem would be increasingly sought.

5 Mixed fisheries

Rapporteur: Morten Vinther

The AMAWG TOR d) "review and plan the implementation of fisheries-based advice by the Assessment Working Groups and integration of fisheries technology expertise, using the results of WKMIXMAN" was opened by a short presentation by Stuart Reeves of the results from SGMIXMAN.2

SGMIXMAN (originally WKMIXMAN) was established with the short-term requirement of defining a framework for simple models of mixed fisheries which could be used to obtain consistency between management (TAC and/or effort) advice for species caught together. The original context for this was the requirement for advice for the demersal stocks of the North Sea, which are caught together to varying extents but have different conservation needs.

The result of the first MIXMAN meeting (ICES, 2006f) was the development of the Fleet and Fishery Forecast approach (F^3 or Fcube). The basic idea of Fcube is the separation of fleets (i.e. the vessels) and their activity (the fisheries or métiers). Fleets (i.e. homogeneous groups of vessels) have a certain amount of effort each year which is allocated between different

métiers. The fishing mortality that each fleet exerts on each of its target species is then derived from its total effort, the proportion of that effort allocated to each métier, and the catchability of each species within each métier. In this way the approach allows the impact of different fleet efforts and allocations to be modelled. For instance by assuming that all fleets will fish until all of their quotas are exhausted, the approach can be used to show the misreported or discarded catches implied by this scenario, and thus illustrate the extent to which the single species TACs are mis-matched.

After the initial adoption of the FCube approach by WKMIXMAN (WKMIXMAN, 2006), exploratory runs were made at WGHMM and WGNSSK. These identified a number of issues for further testing and development and these were investigated further by SGMIXMAN (ICES, 2007b). Further development and testing will be required before Fcube can be used in an advisory context. Part of this work will be done within the EU-funded Aframe project due to start on 1 April 2007.

Fcube is a deliberately simple model, and while there may be scope for developing its fleet dynamic components for use in multi-year simulations, e.g. by developing fisher behaviour models using economic and other data, it will first be essential to ensure that it works effectively in its intended, short-term role. This will require further hind-cast testing and in particular, compilation and analysis of suitable data. While Fcube is a simple model, the data required to provide an adequate representation of e.g. the demersal fisheries of the North Sea are necessarily extensive, and their compilation is a non-trivial task. It is possible that some of the problems so far encountered with the approach, relate more to the need to use data compiled for other purposes than to the approach itself.

AMAWGC comments and conclusions

SGMIXMAN concludes that further development and testing will be required before Fcube can be used in an advisory context. AMAWG support that conclusion, but the work with collation and analysis of fleet/fishery data should continue. For many stocks, a graphical presentation of recent trends in catches (and effort) will provide a major step forward. Right now the SGMIXMAN or AMAWG are not able to give specific guidelines on the format of such presentation.

SGMIXMAN suggests to use the “Nantes matrix” (with added mesh size to indicate métier) as a basis for defining fleets/ metier. AMAWGC had no strong opinion on that, even though ICES has not been asked to review the use of this approach.

Data are being collated by STECF working groups using the “Nantes matrix” segmentation. This is a huge task and a similar exercise should not be repeated when ICES needs fleet/fishery data. ICES should invite for an ICES-STECF coordination meeting on a common contents/format of fisheries/fleet data.

WGFTFB is requested to provide guidelines for how to quantify fishing effort from the various fleet segmentations to allow comparison and aggregation of fishing effort (see below)

ICES should contact the EU-Commission (and similar official bodies) to get access to official reported fishing effort statistics.

Draft recommendation for WGFTFB

Justification

Currently fishing effort in many management areas is measured using kW days, regardless of fishing method. While kW days is taken as a crude proxy for fishing mortality for most fishing gears, if it is desirable to control fishing mortality based on effort then it is important to differentiate relative effort between different gear types. An alternative approach using fishing capacity indicators based on fishing gears is currently being considered by the EU (COM (2007) 39 final), using the characteristics, and especially the size, of fishing gear to represent the potential of a vessel to generate fishing mortality e.g. soaking time, in combination with net length (netters), number of hooks (long-liners), or number of pots (potters). This approach, however, is highly technical and requires further examination by fishing gear technologists before specific indicators for monitoring effort could be considered by stock assessors and managers.

AMAWGC therefore recommends that WGFTFB:

a) Review work carried out on measuring relative/effective effort by gear type;

b) Generate measurements/indicators of effort to recognise the differences in relative fishing effort of different gear types, particularly in terms of catchability.

c) Using the measurements/indicators developed, in conjunction with relevant Assessment Working Groups, apply these to pilot fisheries where different gears are used to target the same species mix e.g. WGNSDS, WGNSSK, WGSSDS, WGHMM.

6 Reference points

Rapporteur: Chris Darby (and Jim Ellis)

Martin Pastoors gave an overview of the recent meeting of WKREF (ICES, 2007b). Though this is reviewed in more detail in Section 6, there were some ecosystem aspects, notably TOR a (*Review and update the biological basis of limit reference points for fish stocks in the ICES area, taking into account the possible effects of species interactions and regime shifts*).

- Preliminary analyses on Baltic Sea cod included environmental parameters, and the recruitment success of this stock was partly explained by the 'reproductive volume' (i.e. the volume of water suitable, in terms of temperature, salinity and oxygen content, for the successful development of cod eggs).

The discussions on the results and outcome of the WKREF meeting centred on the procedures surrounding the revision of the ICES recommended precautionary approach reference points for each stock. The reference points have been used within the management process for over 10 years and during that time data sets and assessment models have been revised and updated. Although assessment Working Groups and WKREF have recalculated new estimates for some stocks, there is no clear route / process for the recommendation and formal adoption of revised values.

In addition to the formal ICES process there is also no clear guidance as to how revised reference points will be included within management plans and whether and at what stage the Regional Advisory Councils, that have been created since the adoption of the original reference points, are to be included within the revision and adoption process. Limit reference points are formulated and calculated using a biological rationalization and are therefore more independent of the political and management systems; precautionary reference points were intended to be defined on the basis of a level of risk to be considered and defined by managers and stakeholders and a process that brings this form of discussion within the revision process may be required for acceptance by all parties.

AMAWG noted that the management of stocks has gradually moved away from the use of the precautionary approach reference points towards the use of target reference points within harvest control rules that will eventually lead to long term management plans. Therefore an evaluation of use of reference points within such long term management plans was required before their significance can be fully ascertained; especially precautionary limits.

AMAWGC concluded there was nothing in the WKREF report that required assessment working groups to revisit reference points for their stocks and agreed that this would only be carried out where there is a clear need for revision.

7 Stock assessment methodology and procedures

Rapporteur: Wim Demaré

7.1 InterCatch

InterCatch was presented to AMAWGC by Henrik Kjems-Nielsen. The discussion that followed did focuse on some technical features of InterCatch and the definition of fleets.

Technical features

InterCatch was applied to a selected number of stocks and the results (Raised catch numbers at age, catch weights at age and stock weights at age) were compared to the currently used numbers for these stocks. For most stocks tested the results were very similar, but for one stock this was not the case. The application of different raising procedures is probably the underlying cause, but this has not been looked at at the moment. AMAWGC recommended that this is further investigated at the InterCatch Workshops in Malta on 4–5/03/2007 and at ICES headquarters on 28–29/03/2007. In addition, Working Groups should test InterCatch where possible and report on the outcome. Special attention should be given to stocks that include discard estimates, since none of the selected stocks to test InterCatch so far did have discard estimates included. Another matter of concern is that the temporal distribution of stocks is not accounted for in InterCatch. For example depending on the time of the year the catch of horse mackerell in IVa and IIIa is assigned to the Western, the Southern or the North Sea component. This implies that for these stocks InterCatch is not an option.

The manual that comes along with InterCatch has scope for improvement. Some persons that did test InterCatch could not always use the manual when they were stuck into the program. These comments have already been made to the manual writers, and a new version of the manual should become available very shortly.

Some technical aspects need to be improved: the conversion from species to stock level, an easy incorporation of certain data, and an improvement of the export format. The first two issues are dealt with at present, the latter will be when extra resources become available.

In the near future, InterCatch should also be able to hold CPUE data. At present the design only foresees to 'hold' these data. However some AMAWGC members want to go one step further and want to make use of InterCatch to get to a more common approach for calculating CPUE data. After all, the current calculations of CPUE are not transparent. Since CPUE calculations are not a primary goal of InterCatch, this discussion was not further elaborated on. It was agreed to continue these discussions offline, and look at the potentials to have CPUE calculations incorporated in InterCatch in the longer term.

Other technical questions that were raised are:

- How are unallocated landings dealt with in InterCatch (confidentially issue)?
- Who gets access to the data? To be decided by the delegates.

- Possibility to create output reports e.g. on catches by fleet, on tuning fleets, etc. Not possible at the moment, but will be.
- Can there be a logfile produced that keeps track of data revisions? Not at the moment.

Fleet definitions

There was confusion on the terminology used. In many cases the term fleet is used (both in InterCatch and at the working groups), while the term 'fishing activity' or 'métier' is better placed.

InterCatch can only become fully operative when the fishing activities are identified. Therefore it was decided to use, for the time being, the fishing activities as they are currently used within the working groups. An excel spreadsheet will be send around by ICES to the stock co-ordinators and the working group chairs where the different fishing activities should be filled in.

For next year a revisit on how 'fishing activity' should be included in InterCatch, is needed. During that process, special attention should be given to:

- Defining the main goal of InterCatch. Is it only an instrument for quality control or could it also be used as a tool for mixed fisheries issues (e.g. to have a quick overview of the catch composition by species and gear)
- The possibility to base the definition of 'fishing activity' on the Nantes matrix (EC. 2005. Report of the Ad Hoc Meeting of independent experts on Fleet-Fishery based sampling. European Commission Staff Working Paper. 23–27 May, Nantes, France. 34 pp.)
- To have identical coding for one fishing activity on different species. Different coding might occur when the definition of fishing activities is carried out by the stock co-odinators. A stock co-ordinator for sole might code the fishing activity as beam trawl, while the stock co-ordinator for plaice might code the same fishing activity as bottom trawl.

Conclusions

The greatest benefits of InterCatch lie in the centralisation of the data used for stock assessments and the historical track of the raising procedures applied to the different data. Before InterCatch becomes the standard program within ICES, an intense testing round is necessary with special focus on the comparison of the results from InterCatch and other raising methods currently used, and with a clear documentation of the underlying causes for possible differences. The testing could be organized at the InterCatch workshops and at the level of the assessment Working Groups. To that aspect workshop participants should bring historical data (for the comparison exercise) to the workshop and data should be put into the right input format for InterCatch before the meeting.

For this year, fishing activities will be defined as they are currently used by the working groups. A revisit of the coding is needed for next year.

7.2 FLR

The concept of FLR (Fisheries Library in R) was presented to AMAWGC by Robert Scott. FLR is an open source framework for fisheries modelling. More information can be found on http://flr-project.org. The development of FLR has been mainly outside ICES, and the discussion now arises on what sort of tools are further required for the assessment working groups, on what is ICES' role in this development, and who should develop and maintain these tools. It was agreed that ICES should at least have a co-ordinating role by keeping an overview of FLR related issues that are currently developed at the working group level. Some

AMAWGC members were of the opinion that ICES should also step forward and play a more prominent role in the development phase of FLR. The latter will be further discussed offline within the ICES secretariat.

Although at present not all methods are fully integrated into FLR, a nice suite of tools is already available (XSA, ICA, Surba, etc.). Some working groups (eg WGHMM and WGNSDS) already have planned to use FLR in a fairly extensive way at their next meeting. A couple of guidelines for working groups that will use FLR are:

- There is a steep learning curve for people with no experience in R. Different workshop courses have been given for that purpose. There will be no time to learn FLR at the time of the working group
- The R-scripts (for the assessment, for producing output tables and figures, etc.) should be written and tested before the working group meeting not at the working group meeting.
- If FLR is applied for the first time to a stock, a comparison run should be carried out
- Both the script and the version of the FLR package used should be stored
- Feedback is expected from working groups that used FLR. The feedback should go via the ACFM chair / AMAWGC and then to the FLR Core Development group.

Conclusions

The role of ICES in the FLR development should be clarified. ICES should have at least an overview of the current FLR developments within the working groups. ICES might have a more prominent role in the development phase, but this will be further discussed offline within the ICES secretariat.

Feedback is expected from working groups that used FLR (from working group to ACFM chair / AMAWGC and to FLR Core).

7.3 DATRAS

A presentation on the developments with regard to the DATRAS database was given by Lena Larsen. The new version of DATRAS (for the calculation of abundance indices) was successfully tested with four surveys, except for some historical data. However this was not due to DATRAS. A new development in the database is the bootstrap procedure to allow estimation of variation. More details on the procedures can be found in three reports that are available at request. These reports will also be put on the ICES website. Future work includes the improvement of data screening processes, the improvement of download facilities, etc. Additional data products that will be developed are amongst other things on a maturity ogive weighted with CPUE data. In that aspect a communication line with PGCCDBS' workshop on maturity data should be established. The prioritisation of future work will be looked at in a user group, and decided on at WGBIFS and WGIBTS.

Other topics that were raised are 1) there should be set deadlines for the submission of survey data (e.g. for the Q3 IBTS data no such deadline exists at the moment); 2) the methods working group will be asked to look at incorporating variance estimates in (survey-based) assessments and 3) working groups should use the DATRAS database to retrieve abundance indices where that is possible.

7.4 Update and benchmark assessments

A document on benchmark and update assessments (Doc 17, AMAWGC February 2007 and Doc 18, ACFM September 2006) was presented to AMAWGC on Wednesday evening. The concept of benchmark-update assessment was introduced a couple of years ago to reduce the

workload at working groups. At present an assessment is categorised as being 'benchmark', 'observation list', 'update', or 'exploratory (experimental)'. The definition for these terms can be found in the document. A summary of the AMAWGC discussion on this topic is given below.

The procedure to put stocks on the observation list should be improved. For example 4 stocks that are assessed at WGNSSK are currently estimated to be below B_{lim}, while only 1 of these stocks is put on the observation list. In addition it was not clear how to treat the assessment of stocks that are on the observation list. Should they be treated as benchmark assessments? Can they be treated as update assessments or do they have to receive some extra attention? It was therefore decided to create two categories. The first is related to the status of the stock (observation list or not). The second is related to the status of the assessment (benchmark, update or exploratory (experimental)). For stocks with an update assessment that are also on the observation list, more attention can be given to the assessment compared to what is normally expected from an update assessment. It is up to the expert judgement of the working group to make this decision, but the decision should be communicated the ICES secretariat and/or ACFM chair before the meeting starts.

The update-benchmark concept has been introduced at the working group level, but this is not followed at the review group level. Therefore the update-benchmark system also needs to be introduced in the review groups and ACFM should give clear guidelines on how to do this with regard to the review process of the report and with regard to the formulation of the advice.

Every year, a scheme is set up with the categorisation of the stocks and assessments. It is the working group that comes up with a proposal for the scheme, it is the review group that reviews the scheme and it is AMAWGC that decides on the scheme.

Conclusions

Before WGNSSK meets in 2007, the categorisation of some stocks (especially with regard to the 'observation list' category) should be amended so that they are in line with the definitions.

From 2008 onwards, two categories will be created under the benchmark-update concept: 1) stock on observation list or not 2) benchmark, update or exploratory (experimental) assessment.

The benchmark-update concept needs to be introduced at the review group level

7.5 Quality of assessment and forecast

Last year quality control plots on the historical performance of the assessment were introduced for many stocks. It was discussed how this approach could be improved and how it could be further expanded by also including quality controls for the forecast. Especially stakeholders are interested in the latter. Martin Pastoors presented some possibilities: 1) Ranking the assessment quality based on qualitative and/or quantitative criteria and 2) Looking at the performance of the forecast by redoing the forecast when the actual catches become available. With the second approach no distinction can be made between implementation error and the error of the forecast. Therefore it should be clearly communicated when presenting such analysis. It was also questioned if such a system in general cannot be misused to put the advisory process into discredibility instead of using it for highlighting uncertainty in the assessment and forecast. On the other hand ICES needs to be transparent on the uncertainty in the assessment and forecast, and if the quality control shows a consistent bias in e.g. the forecast, the way of giving advice in that particular case might have to be reconsidered, but this does not imply that you cannot give quality advice in such a case.

There are several methods available to quantify the uncertainty, and the methods working group will be tasked to look and comment at these different methods. This information could also be used in the precautionary approach framework that was suggested by SGPA 2002 (ICES, 2002).

For the time being, the maintenance of the quality control database remains the responsibility of the ICES secretariat and not of the working groups.

Conclusions

There is a demand to present the quality control of both the assessment and the forecast (both should be presented separately).

The methods group will be tasked to look at different methods to quantify the quality.

The maintenance of the historical quality database is the responsibility of the ICES secretariat.

7.6 Quality Assurance

In introduction to ICES' role in the Quality Assurance process in relation to the Data Collection Regulation was given by Hans Lassen. The QA process is partly covered in the current MoU between ICES and the EU. ICES remains responsible for the quality control of aggregated data that are used for assessment purposes. In addition ICES has to evaluate if the data collected under the DCR fit their purpose. Other responsibilities of ICES are amongst other things on the documentation of the advisory process.

PGCCDBS gets a central role in this quality assurance process and will function as an interregional co-ordination and cooperation group. In addition PGCCDBS will ascertain the linkage between data collectors and data users. Some of the main tasks of the planning group are to:

- Define and approve standards for data quality,
- Identify data quality problems and
- Initiate actions to improve the data quality

Discussion

The quality assurance process is also applicable to ecosystem based data and research needs.

PGCCDBS has been asked to develop standards for data quality control, but it is not always obvious on how to do that. To that aspect it is important to identify the critical pieces in the process. For example the true variance of ALKs is influenced by the way the age reading is done. Consequently age reading workshops can be essential to improve quality.

How will the quality assurance process affect the working groups? To assure the quality of aggregated data, InterCatch is introduced at the working group level (see also section 7.1). In addition good documentation in the working group reports of the data and data compilation processes is essential to assure quality (e.g. on misreporting estimates). There are standard templates in development for both the qualitative and the quantitative QA process. The templates will not be introduced in the working groups this year. PGCCDBS and the ICES secretariat should closely work together in the further development of these templates. The outcome of the COST project might be used for quantitative QA.

ICES secretariat will look at means to improve and assure consistency in the advice (both in time and space).

If the ICES advisory process is going to be reformed (see Section 9), the QA process needs to fit this change.

Conclusions

- To assure the quality of aggregated data, InterCatch is introduced at the working group level.
- PGCCDBS and the ICES secretariat should closely work together in the further development of standard QA templates.
- ICES has to assure consistency in the advice (both in time and space)

8 WG planning and process

8.1 Experiences in chairing WG meetings

Rapporteur: Henrik Sparholt

Often participants are not paying attention during discussions because they are surfing on the net or reading e-mails. It was suggested that the Chair should approach key participants directly, set up sub groups, working only within decent working hours, be a bossy Chair, in order to attach the problem.

The working load is expected to continue to be a problem. The WGNSDS would elaborate on the FLR system so that they can prepare themselves beforehand to try overcome the problem. This hopefully can free time for the participants to other things than the routine core ones. Martin mentioned that the new structure would attempt to resolve the problem by pressing the WG on time available so that they are forced to do the assessments beforehand, and by pressing for the assessments to be done at national labs before the WG meeting. It was mentioned that there is a risk that some ad hoc non-ICES meetings will be set up in order to do the assessments especially when multi-species aspects are important, as in the Barents Sea. This is not desirable, some thought.

Next year it is the intension that the WGs shall make the advice. However, this needs education of the wg members. This system carries the risk that the outside world will see it as: "the real experts say one thing and then ACFM (or the parallel unit in the new structure) come in and mesh it up".

There was an extended discussion about excluding environmental issues and saving time at WGs meeting. It was, however, stressed that ICES must continue the process of integrating environmental factors into assessments.

When a WG has carefully drafted summaries it needs to be more seriously considered by ACFM than it is at the moment. If the WG advice is changed by ACFM it at least should be documented why.

Southern hake assessment where rejected by the RG while ACFM accepted it, and this happened both in 2005 and 2006. This is partly because ACFM has a quite black and white approach, either accepted or rejecting an assessment. Maybe it would be better to extract what can be extracted with reason from the assessment available, and use the "grey" scale to a larger extent.

Some RGs do not always understand its role. They should not just reject an assessment, but should also give solutions to problems identified.

It was suggested that it takes 2–3 years until reviewers understand an assessment. Therefore, this should be taken into account when planning. Changes of reviewers from year to year create problems.

For Arctic cod it was mentioned that 6 different models were used last year with different sets of details, but mainly based on the same principles. However, the outcome and advice were

more or less the same, why this was therefore to some extent a waist of time. However, if the assessment is a benchmark one, then using several models are needed.

It was mentioned that it can sometimes be difficult to take the RG work serious, because the reviewers are not always well prepared. Maybe the RGs should not have as much power to accept or reject an assessment as they have today. At the moment the RGs have too little time to do the job. To involve external reviewers are expensive. When a management plan is implemented and we just are doing up date assessments then reviews should not be a big issue.

The Pandalus WG adopted the NAFO tradition of not having included all technical details, but put part of the details on the web. However, the reviewers need to know where to look for the details.

The level of details given in the WG reports should be viewed in the light of there being other users of the WG reports than just the RGs. However, the aim should be to give the basis for the advice and not just everything related to a stock.

The WG reports are very large. There is a lot of PC output like tables with similar M values, which can be left out.

In cases where a WG has not regarded data because they are conflicting with other information this should be clearly stated.

The elasmobranch WG did not have participants from two countries, which have large elasmobranch catches. The problem seems to be based on lack of travel funding and lack of access to relevant data. The group is also in need for experts in assessment methods. It was suggested that ICES should pay for one expert at the meeting for each WG. It was also suggested that groups which cannot attract the right people should be cancelled. This will free at least a few scientists and making them available for other groups and tasks. It was suggested that the best way forward to resolve the problem of the elasmobranch WG might be to approach the ICES delegates directly by the WG Chair. Last year the WGNAS Chair asked the ICES Secretariat to approach Spain and Denmark about members in WGNAS. After e-mails to the Delegates of both countries a scientist from each country were nominated to the group.

8.2 Sharepoint

Rapporteurs: Rob Scott and Michaela Aschan

SharePoint was first used by ICES working groups in 2006 and it is proposed to extend its use in 2007. For 2007 it is intended that as much information as possible will be stored on SharePoint such that only the 'stock' directory shall remain on the network drive (W: drive).

For 2007, data for the previous year will remain available on the W: drive under W:\acfm\wgacronym\2007\stock. For 2008 and beyond, the previous year's SharePoint site will be linked to the current year's site so that data for the previous year remain available to the working group. Data for earlier years will be archived to a DVD. It is currently not possible to run the standard graph software from SharePoint and for the time being these files will remain on the network drive.

A number of useful aspects of SharePoint were highlighted to the meeting. These included an announcement facility that enables messages to be sent to the sites registered members, a discussion board, a convenient method for downloading all of the files on the site (though this is only available to those with administrative rights) and a version tracking system. Initially only the chair of the group and the secretariat will have administrative rights to the SharePoint site although such privileges may be given to others.

Two potential formats of SharePoint front page layout were presented to the group with a recommendation that the simplest layout may be the best option.

Documentation explaining the use of SharePoint are available and can be obtained from the Secretariat.

Links to SharePoint sites for all ICES working groups can be found at http://portal.ices.dk

8.3 Planning of activities by WG

8.3.1 AFWG

Chair: Yuri Kovalev

Specific ToRs

a) assess the status of and provide management options for the year 2008 for the stocks of cod, haddock, saithe, Greenland halibut, and redfish in Subareas I and II, taking into account interactions with other species;

b) update the data files on Barents Sea capelin and oversee the process of providing inter-sessional assessment and predictions on the stock;

c) for the stocks mentioned in a) and b) perform the tasks described in C.Res. 2006/2/ACFM01.

Term of reference	Year	Comments
(1) set appropriate deadlines for submission of data. Data submitted after the deadline can be disregarded at the discretion of the WG Chair.	2007	Data usually made available at the start of the meeting
(2) compile all relevant fisheries data, including data on different catch components (landings, discards, bycatch) and data on fishing effort. Data should be disaggregated by fisheries/fleets.	2007	Regularly done by the WG in terms of landings, bycatch and fishery descriptions. In the future disaggregated by fisheries/fleets data will be exchanged through InterCatch.
(3) assess the state of the stocks according to the schedule for benchmark and update assessments as shown below.	2007	This will be carried out in 2007 as standard.
(4) provide specific information on possible deficiencies in the 2007 assessments and forecasts, • any major inadequacies in the data on landings, effort or discards; • any major expertise that was lacking • any major inadequacies in research vessel surveys data, • any major difficulties in model formulation or available software. The consequences of these deficiencies for both the assessment of the status of the stocks and the projection should be clarified	2007	This will be carried out in 2007 as standard.
(5) consider knowledge on important environmental drivers for stock productivity (based on input from e.g. WGRED and for the North Sea NORSEPP). If such drivers are considered important for management advice, incorporate such knowledge into assessment and prediction and comment on the consequences for long term targets of high yield and low risk.	2007	A comprehensive description of the Barents Sea ecosystem is providing by the group on annual basis (chapter 1 of the report). A results of studies of environmental drivers on stocks productivity are reflected at the same chapter of the report and incorporated into predictions when they are considered to be relevant.
(6) consider existing knowledge of important impacts of fisheries on the ecosystem	2007	Also is a part of the report's chapter 1. Will be updated in 2007
(7) Evaluate existing management plans and develop options for management strategies including target and limit reference points. If mixed fisheries are considered important consider the consistency of target reference points and management strategies	2007	The management plan for NEA saithe will be evaluated in 2007.

Term of reference	Year	Comments
(8) assess the influence of individual fleet activities on the stocks. For mixed fisheries, assess the technical interactions;	2007	Low priority. There are no requests from client (JRNC). The general observation of the problem have been done in report and updated annually.
(9) provide an overview of major regulatory changes (technical measures, TACs, effort control and management plans) and evaluate or assess their (potential) effects.	2007	Is done annually and will be updated
(10) where misreporting and/or discarding is considered significant provide qualitative and where possible quantitative information, by fisheries and the describe the methods used to obtain the information and its influence on the assessment and predictions.	2007	Estimates of NEA cod and haddock unreported landings in 2002-2005 included into assessments.
(11) present an overview of the sampling on a national basis of the basic assessment data for the stocks considered according to the template that is supplied by the Secretariat	2007	Will be done through Intercatch in 2007
(12) implement the roadmap for medium and long term strategy of the group as developed in AMAWGC	2007	This is a routine task for the WG

8.3.2 HAWG

Chair : Mark Dickey-Collas

Specific ToRs

a) assess the status of and provide management options (by fleet where possible) for 2008 for:

- the North Sea autumn-spawning herring stock in Division IIIa, Sub-area IV, and Division VIId (separately, if possible, for Divisions IVc and VIId). Forecasts should be provided by fleet if possible and taking into account the management plan agreed between the EU and Norway;
- the herring stocks in Division VIa and Sub-area VII;
- the stock of spring-spawning herring in Division IIIa and Sub-divisions 22–24 (Western Baltic); Management options for Div. IIIa shall be given by fleets taking into account that North Sea herring and Western Baltic herring are taken together in this Division;

b) assess the status of the sprat stocks in Subarea IV and Divisions IIIa and VIId,e;

c) consider implications of SGRECVAP for the assessment and outlook of North Sea herring stock, as well as for PA reference points;

d) for the stocks mentioned in a) and b) perform the tasks described in C.Res. 2006/2/ACFM01.

At the time of AMAWGC 2007, it looked likely that a special request from the European Commission on the findings of the EC project WESTHER would be made to HAWG. HAWG is prepared for this request, should it arrive.

Term of reference (HAWG)	Year	Comments
(1) set appropriate deadlines for submission of data. Data submitted after the deadline can be disregarded at the discretion of the WG Chair.	2007	This was set as 28 February 2007
(2) compile all relevant fisheries data, including data on different catch components (landings, discards, bycatch) and data on fishing effort. Data should be disaggregated by fisheries/fleets.	2007	This year additional estimates of discards and slippage will be available to the WG. The collection of effort data will be postponed until suitable estimators for pelagic trawler effort have been determined by EC project Café in late 2008.
(3) assess the state of the stocks according to the schedule for benchmark and update assessments	2007	This will be carried out in 2007 as standard. If the EC special request on the WESTHER project is submitted, this may have implications for the completion of this task in 2007.
(4) provide specific information on possible deficiencies in the 2007 assessments and forecasts, • any major inadequacies in the data on landings, effort or discards; • any major expertise that was lacking • any major inadequacies in research vessel surveys data, • any major difficulties in model formulation or available software. The consequences of these deficiencies for both the assessment of the status of the stocks and the projection should be clarified	2007	This will be carried out in 2007 as standard.

Term of reference (HAWG)	Year	Comments
(5) consider knowledge on important environmental drivers for stock productivity (based on input from e.g. WGRED and for the North Sea NORSEPP). If such drivers are considered important for management advice, incorporate such knowledge into assessment and prediction and comment on the consequences for long term targets of high yield and low risk.	2007 & 2008	This will be carried out in 2007 as standard. Importantly SGRECVAP will meet after HAWG in 2007- so the findings of SGRECVAP will be considered in 2008 by HAWG but in 2007 by WKEFA (see specific HAWG TOR c above).
(6) consider existing knowledge of important impacts of fisheries on the ecosystem	2007	This will be carried out in 2007 as this is not a large area of research in pelagic fisheries such as herring and sprat.
(7) Evaluate existing management plans and develop options for management strategies including target and limit reference points. If mixed fisheries are considered important consider the consistency of target reference points and management strategies	2007 & 2009	There are no existing or potential management plans of the HAWG stocks that need to be evaluated immediately. The North Sea herring management plan is regularly evaluated and the Irish management plans are on hold, as no full assessments have been accepted by ACFM in the last few years. However HAWG plans, with WKEFA, to investigate further the robustness of the North Sea Management agreement in light of the recruitment variability.
(8) assess the influence of individual fleet activities on the stocks. For mixed fisheries, assess the technical interactions;	2009	This is not thought to be a major issue for HAWG, the findings of EC projects Café and AFRAME may help with this TOR. Most herring are not caught in mixed fisheries, although some sprat are caught as mixed catch.
(9) provide an overview of major regulatory changes (technical measures, TACs, effort control and management plans) and evaluate or assess their (potential) effects.	2008	There are at present no major changes to the regulation of the fishery.
(10) where misreporting and/or discarding is considered significant provide qualitative and where possible quantitative information, by fisheries and the describe the methods used to obtain the information and its influence on the assessment and predictions.	2007	Discarding is not thought to be a major issue in the fisheries covered by HAWG. However, as mentioned above new estimates of discards from some fleets will be presented to HAWG in 2007.
(11) present an overview of the sampling on a national basis of the basic assessment data for the stocks considered according to the template that is supplied by the Secretariat	2007	This will be carried out in 2007 but through the use of INTERCATCH.
(12) implement the roadmap for medium and long term strategy of the group as developed in AMAWGC	2007	This will be carried out as specificed.

8.3.3 NWWG

Chair: Einar Hjorleifsson

Term of reference (NWWG) – FIRST DRAFT	Year	Comments
(1) set appropriate deadlines for submission of data. Data submitted after the deadline can be disregarded at the discretion of the WG Chair.		Not an issue within the NWWG
(2) compile all relevant fisheries data, including data on different catch components (landings, discards, bycatch) and data on fishing effort. Data should be disaggregated by fisheries/fleets.		2007: Focus on fleet definition
(3) assess the state of the stocks according to the schedule for benchmark and update assessments as shown below.		No benchmark set for NWWG in 2007. fSaithe and iHerring need to be put on the exploratory list, since no accepted analytical assessment.
(4) provide specific information on possible deficiencies in the 2007 assessments and forecasts, • any major inadequacies in the data on landings, effort or discards; • any major expertise that was lacking • any major inadequacies in research vessel surveys data, • any major difficulties in model formulation or available software. The consequences of these deficiencies for both the assessment of the status of the stocks and the projection should be clarified		
(5) consider knowledge on important environmental drivers for stock productivity (based on input from e.g. WGRED and for the North Sea NORSEPP). If such drivers are considered important for management advice, incorporate such knowledge into assessment and prediction and comment on the consequences for long term targets of high yield and low risk.		Continue to predict weight at age of the Icelandic cod based on information of capelin abundance. Evaluate likely
(6) consider existing knowledge of important impacts of fisheries on the ecosystem		Will update in 2007
(7) Evaluate existing management plans and develop options for management strategies including target and limit reference points. If mixed fisheries are considered important consider the consistency of target reference points and management strategies		Priority is high (limit reference points and HCR). Chair will suggest a way to start the process prior to the 2007 meeting (through FLR), with a preliminary evaluation of the Faroe stocks during 2007 meeting and a final evaluation in 2008.
(8) assess the influence of individual fleet activities on the stocks. For mixed fisheries, assess the technical interactions;		Following 2007 fleet definition work, work on this ToR to be taken up in 2008.
(9) provide an overview of major regulatory changes (technical measures, TACs, effort control and management plans) and evaluate or assess their (potential) effects.		Overviews are already available, evaluation a focus in 2007

Term of reference (NWWG) – FIRST DRAFT	Year	Comments
(10) where misreporting and/or discarding is considered significant provide qualitative and where possible quantitative information, by fisheries and the describe the methods used to obtain the information and its influence on the assessment and predictions.		Information on discards are available. Sensitivity of not including data in the assessment will be evaluated in 2007
(11) present an overview of the sampling on a national basis of the basic assessment data for the stocks considered according to the template that is supplied by the Secretariat		Will be done through Intercatch in 2007
(12) implement the roadmap for medium and long term strategy of the group as developed in AMAWGC		

8.3.4 WGDEEP

Chair: Paul Marchal

Term of reference (WGDEEP)	Year	Comments
(1) set appropriate deadlines for submission of data. Data submitted after the deadline can be disregarded at the discretion of the WG Chair.	2007-2009	The data are usually made available at the start of the meeting, despite a deadline. We will likely be in the same situation in 2007. This situation needs to be improved (INTERCATCH may help). It has happened that a member country has provided data in the last days of the meeting, in which case these have been rejected
(2) compile all relevant fisheries data, including data on different catch components (landings, discards, bycatch) and data on fishing effort. Data should be disaggregated by fisheries/fleets.	2007-2009	Total landings data have been and will be made available for blue ling, ling, tusk, greater argentine, orange roughy, roundnose grenadier, black scabbardfish, red seabream, alfonsino. From 2007, WGDEEP will compile data on deep-sea sharks for transmission to WGEF. To allow splitting landings by fisheries would require fisheries definitions be established. In 2006, landings data were provided by gear type. Discards (e.g. of grenadier) and effort data by fisheries have not been regularly compiled by WGDEEP. WGDEEP07 may initiate the regular collation of these data, but given time constraints, this is more realistically achievable in 2008.
(3) assess the state of the stocks according to the schedule for benchmark and update assessments as shown below.	2007 2008	No advice is required. Only exploratory assessments are performed. CSA to be considered for blue ling, ling, tusk. CPUE trends for other stocks (when available).
(4) provide specific information on possible deficiencies in the 2007 assessments and forecasts, • any major inadequacies in the data on landings, effort or discards; • any major expertise that was lacking • any major inadequacies in research vessel surveys data, • any major difficulties in model formulation or available software. The consequences of these deficiencies for both the assessment of the status of the stocks and the projection should be clarified	-	No assessment planned for 2007
(5) consider knowledge on important environmental drivers for stock productivity (based on input from e.g. WGRED and for the North Sea NORSEPP). If such drivers are considered important for management advice, incorporate such knowledge into assessment and prediction and comment on the consequences for long term targets of high yield and low risk.	2008?	This would require in principle the participation of WGRED member(s) to WGDEEP. However, it may not be regarded as a priority by WGDEEP.
(6) consider existing knowledge of important impacts of fisheries on the ecosystem	2007-2009	Interactions with WGDEC regarding DW corals have already been initiated and will need be substantiated through the participation of WGDEC members

Term of reference (WGDEEP)	Year	Comments
(7) Evaluate existing management plans and develop options for management strategies including target and limit reference points. If mixed fisheries are considered important consider the consistency of target reference points and management strategies	-	Not possible at the moment. There is no agreeable reference points and no conceptual framework to evaluate management plans.
(8) assess the influence of individual fleet activities on the stocks. For mixed fisheries, assess the technical interactions;	2008	This could be attempted, provided TOR (2) is fulfilled .
(9) provide an overview of major regulatory changes (technical measures, TACs, effort control and management plans) and evaluate or assess their (potential) effects.	2008	Already initiated in 2006. Can be pursued.
(10) where misreporting and/or discarding is considered significant provide qualitative and where possible quantitative information, by fisheries and the describe the methods used to obtain the information and its influence on the assessment and predictions.	2008	The French industry has provided a WD since 2002 Thiss participation will be maintained, and if possible extended to other countries.
(11) present an overview of the sampling on a national basis of the basic assessment data for the stocks considered according to the template that is supplied by the Secretariat	2008	Should be available for most of the stocks
(12) implement the roadmap for medium and long term strategy of the group as developed in AMAWGC	2007-2008	To be approved by WGDEEP members

8.3.5 WGEF

Chair: Jim Ellis

Specific TORs:

a) Update the description of elasmobranch fisheries (including those on deep-water sharks) in the ICES area and compile landings and discard statistics by ICES Subarea and Division; (generic ToR)

b) Assess the stock status and stock identity of demersal elasmobranchs in the following eco-regions: North Sea, Skagerrak and Eastern Channel, Celtic Seas, Biscay and Iberia.

c) Update data for other species/stocks that are scheduled for consideration in 2008 and 2009.

d) Prepare for a joint assessment working group with ICCAT in 2009 on blue shark and shortfin mako shark.

e) Report on the development of a standard exchange format to facilitate the submission of biological, fisheries,discards and survey data to WGEF.

f) produce a photo-ID key for elasmobranchs in the ICES area (together with IBTSWG).

g) Compile all available conversion factors for elasmobranch species.

h) assess and report on the evidence that is the basis for the nominations to the OSPAR List of Threatened and/or Declining Species and Habitats of:

- Porbeagle shark (*Lamna nasus*),
- Blue shark (*Prionace glauca*),
- Northeast Atlantic spurdog (*Squalus acanthias*),
- Leafscale gulper shark (*Centrophorus squamosus*) ;
- Gulper shark (*Centrophorus granulosus*).
- Portuguese dogfish (*Centroscymnus coelolepis*).;
- Thornback ray (*Raja clavata*);
- White skate (*Rostraja alba*) and
- Angel shark (*Squatina squatina*).

The purpose of the assessments is to ensure that the data used to support the nominations are sufficiently reliable and adequate to serve as a basis for conclusions that these species can be identified as threatened and/or declining species according to OSPAR's Texel/Faial criteria.

i) Work towards the production of an ICES Cooperative Research Report on the "Status of Elasmobranchs in the NE Atlantic" in 2008

Notes:

TOR h) has already been completed by correspondence, as ICES needed to advise OSPAR in January

Term of reference (WGEF)	Year	Comments
(1) set appropriate deadlines for submission of data. Data submitted after the deadline can be disregarded at the discretion of the WG Chair.	2007	We have had this system in place for some time for most data (e.g. landings and those data identified by stock coordinators). Other data sets (e.g. discards data) are usually brought to the WG in raw form for exploratory analyses. The 2007 meeting will address the use of Intercatch for providing species composition information from market sampling programmes.

Term of reference (WGEF)	Year	Comments
(2) compile all relevant fisheries data, including data on different catch components (landings, discards, bycatch) and data on fishing effort. Data should be disaggregated by fisheries/fleets.	2007	This is a routine task undertaken by the WG, in terms of landings, bycatch and fishery descriptions. It is suggested that WGEF examine those effort data compiled by the regional assessment groups (for mixed demersal fisheries) and WGDEEP (for deep-water fisheries) and then identify which targeted elasmobranch fisheries require the collation of effort data.
(3) assess the state of the stocks according to the schedule for benchmark and update assessments as shown below.	2007	Assessments will be undertaken for demersal elasmobranchs, as scheduled
(4) provide specific information on possible deficiencies in the 2007 assessments and forecasts, • any major inadequacies in the data on landings, effort or discards; • any major expertise that was lacking • any major inadequacies in research vessel surveys data, • any major difficulties in model formulation or available software. The consequences of these deficiencies for both the assessment of the status of the stocks and the projection should be clarified	2007	We will continue this process
(5) consider knowledge on important environmental drivers for stock productivity (based on input from e.g. WGRED and for the North Sea NORSEPP). If such drivers are considered important for management advice, incorporate such knowledge into assessment and prediction and comment on the consequences for long term targets of high yield and low risk.	2007	Low priority. Many of these stocks are long lived and with a reproductive strategy that results in a closer relationship between stock and recruitment. It is less likely that there environmental drivers than for short lived species.
(6) consider existing knowledge of important impacts of fisheries on the ecosystem	2007	We will continue this process
(7) Evaluate existing management plans and develop options for management strategies including target and limit reference points. If mixed fisheries are considered important consider the consistency of target reference points and management strategies	2007	There are few existing management plans for elasmobranchs, those that do exist will be considered, though there are unlikely to be sufficient data for a quantitative evaluation
(8) assess the influence of individual fleet activities on the stocks. For mixed fisheries, assess the technical interactions;	2007	We will take a qualitative approach in 2007 to identify the interactions with WGDEEP, WGNSSK, NSWG, SSWG, WGHMM
(9) provide an overview of major regulatory changes (technical measures, TACs, effort control and management plans) and evaluate or assess their (potential) effects.	2007	This is a routine task for the WG

Term of reference (WGEF)	Year	Comments
(10) where misreporting and/or discarding is considered significant provide qualitative and where possible quantitative information, by fisheries and the describe the methods used to obtain the information and its influence on the assessment and predictions.	2007	We will start the process this year
(11) present an overview of the sampling on a national basis of the basic assessment data for the stocks considered according to the template that is supplied by the Secretariat	2007	We will start the process this year, with special emphasis on market sampling for skates and rays
(12) implement the roadmap for medium and long term strategy of the group as developed in AMAWGC	2007	This is a routine task for the WG

8.3.6 WGHMM

Chair: Manuela Azevedo

a) assess the status of and provide management options for 2008 for

1. hake in Subareas III, IV, VI, VII, VIII, and IX (northern and southern hake)
2. anglerfish and megrim in Subareas VII, VIII, and IX
3. sole in Subarea VIII (Bay of Biscay)

b) Update catch information for Nephrops in Division VIIbcjk and Subareas VIII, and IX

c) for the stocks mentioned in a) perform the tasks described in C.Res. 2006/2/ACFM01.

Term of reference (WGHMM)	Year	Comments
(1) set appropriate deadlines for submission of data. Data submitted after the deadline can be disregarded at the discretion of the WG Chair.		Data submission is ~ 1-2 months before the meeting. Preliminary assessments are presented in the first days of the WG meeting.
(2) compile all relevant fisheries data, including data on different catch components (landings, discards, bycatch) and data on fishing effort. Data should be disaggregated by fisheries/fleets.	2007-2008	2007: Provide 2006 discard data for hake stocks; updates for stocks with discards sampling data (megrim in VII+VIII and Nep MA N); provide final fleet segmentation to be used for the Iberian stocks. 2008: Reconstruction of discards series for both hake stocks following methods recommended by WGMG 2007; hake stocks assessed with discard data.
(3) assess the state of the stocks according to the schedule for benchmark and update assessments as shown below.	2007	Observation: 2 hake stocks; Benchmark: 2 Iberian anglerfish (catch-at-age data will be presented to perform an analytical assessment); Update: remaining fish stocks & possibly BB Nephrops.
(4) provide specific information on possible deficiencies in the 2007 assessments and forecasts, • any major inadequacies in the data on landings, effort or discards; • any major expertise that was lacking • any major inadequacies in research vessel surveys data, • any major difficulties in model formulation or available software. The consequences of these deficiencies for both the assessment of the status of the stocks and the projection should be clarified		This has been a common procedure by stock: deficiencies highlighted; consequences evaluated on a qualitative basis.
(5) consider knowledge on important environmental drivers for stock productivity (based on input from e.g. WGRED and for the North Sea NORSEPP). If such drivers are considered important for management advice, incorporate such knowledge into assessment and prediction and comment on the consequences for long term targets of high yield and low risk.	2009	For both hake stocks, depending on results from EU project and/or contribution from WGRED.
(6) consider existing knowledge of important impacts of fisheries on the ecosystem	2009?	Depending on contribution from expert groups (WGECO ?)

Term of reference (WGHMM)	Year	Comments
(7) Evaluate existing management plans and develop options for management strategies including target and limit reference points. If mixed fisheries are considered important consider the consistency of target reference points and management strategies	2007-2008	2007: Attempt to re-evaluate the hake RPlans using FLR HCR package. 2008: develop management strategies based on S-R (e.g MSY) and Y/R analysis: candidate stocks to be defined in 2007.
(8) assess the influence of individual fleet activities on the stocks. For mixed fisheries, assess the technical interactions;		Last year WGHMM performed an exercise using the Fcube approach. However, mixed fisheries approach needs to into account assessment of stocks carried out in other WGs hence this should be dealt in a dedicated WG or SG.
(9) provide an overview of major regulatory changes (technical measures, TACs, effort control and management plans) and evaluate or assess their (potential) effects.	2007	Overview available. Evaluate/assess effects: discuss with WG members on available data and methods to perform such analysis.
(10) where misreporting and/or discarding is considered significant provide qualitative and where possible quantitative information, by fisheries and the describe the methods used to obtain the information and its influence on the assessment and predictions.	2007 & 2009	2007: Provide qualitative information on misreporting by stock. 2009: Provide quantitative information for those stocks where misreporting is considered to be a relevant and important issue.
(11) present an overview of the sampling on a national basis of the basic assessment data for the stocks considered according to the template that is supplied by the Secretariat		Will continue to be a common procedure.
(12) implement the roadmap for medium and long term strategy of the group as developed in AMAWGC		☺

8.3.7 WGMHMSA

Chair: Beatriz Roel UK

Specific ToRs:

a) assess the status of and provide management options for 2008 for:

- mackerel and sardine in Divisions VIIIc and IXa,
- western and southern horse mackerel,
- anchovy in Subarea VIII and anchovy in Division IXa;

b) for the stocks mentioned in a) perform the tasks described in C.Res. 2006/2/ACFM01.

Generic ToRs:

Term of reference (WGMHSA)	Year	Comments
(1) set appropriate deadlines for submission of data. Data submitted after the deadline can be disregarded at the discretion of the WG Chair.	2007-2009	System already implemented, 100% compliance amongst countries that supply data.
(2) compile all relevant fisheries data, including data on different catch components (landings, discards, bycatch) and data on fishing effort. Data should be disaggregated by fisheries/fleets.	2007-2009	Data on fleets composition is being updated every third year. Effort control is generally considered an inappropriate tool to manage pelagic fisheries. Suitable estimators for pelagic trawler effort may be determined by EC project Café in late 2008. Compilation of data on fishing effort (when appropriate) will be postponed until then.
(3) assess the state of the stocks according to the schedule for benchmark and update assessments as shown below.	2007 2008	Benchmark: NEA mackerel. Exploratory: Horse-mackerel stocks and anchovy in XIa. Updates: Bay of Biscay anchovy and sardine in VIIIc and IXa.
(4) provide specific information on possible deficiencies in the 2007 assessments and forecasts, • any major inadequacies in the data on landings, effort or discards; • any major expertise that was lacking • any major inadequacies in research vessel surveys data, • any major difficulties in model formulation or available software. The consequences of these deficiencies for both the assessment of the status of the stocks and the projection should be clarified	2008	Deficiencies in input commercial and survey data already noted in the report. Work will continue in 2007 to address these deficiencies. Consequences of deficiencies in the assessment to be considered in depth at the time of benchmark assessments (NEA mackerel in 2007).
(5) consider knowledge on important environmental drivers for stock productivity (based on input from e.g. WGRED and for the North Sea NORSEPP). If such drivers are considered important for management advice, incorporate such knowledge into assessment and prediction and comment on the consequences for long term targets of high yield and low risk.	2008	Overview on environmental drivers included in section 1 of report since 2004. In the absence of statistically sound demonstrations of adequate correlation (functional relationships) between environmental drivers and past resource dynamics the WGMHSA does not envisage the incorporation of such information in a quantitative way in neither the assessment nor predictions. However, if WGRED makes relevant contributions WGMHSA will use them to inform the assessment process where applicable.
(6) consider existing knowledge of important impacts of fisheries on the ecosystem	2007-2008	This is not a large area of research in pelagic fisheries. However, a holistic view to understand processes such as recruitment in both sardine and anchovy is being encouraged.

Term of reference (WGMHSA)	Year	Comments
(7) Evaluate existing management plans and develop options for management strategies including target and limit reference points. If mixed fisheries are considered important consider the consistency of target reference points and management strategies	2008	A EU-Norway-Faeroes management agreement is in place for NEA mackerel; ICES has been tasked with the evaluation of HCRs for the stock. HCRs for Western horse-mackerel are being evaluated by scientists and the Pelagic RAC. HCRs that make use of the existing recruitment indices need to be developed and evaluated for Bay of Biscay anchovy in collaboration with stake-holders.
(8) assess the influence of individual fleet activities on the stocks. For mixed fisheries, assess the technical interactions;	2008	This is not an issue for the pelagic fisheries dealt with by WGMHSA
(9) provide an overview of major regulatory changes (technical measures, TACs, effort control and management plans) and evaluate or assess their (potential) effects.	2008	A comprehensive list of major regulatory measures to be compiled by the 2007 with the view of evaluating their effects by 2008.
(10) where misreporting and/or discarding is considered significant provide qualitative and where possible quantitative information, by fisheries and the describe the methods used to obtain the information and its influence on the assessment and predictions.	2008	Progress made in estimating the magnitude of under-reporting in the mackerel fishery to be evaluated in 2007 as well as the impact of slippage which is being quantified by a Norwegian project. Procedures for increased data collection on pelagic discards in areas where it may be a problem need further development and subsequent implementation; issues to be raised in 2007 meeting.
(11) present an overview of the sampling on a national basis of the basic assessment data for the stocks considered according to the template that is supplied by the Secretariat	2008	The table template sent by the secretariat has been amended and completed since 2005. This will continue in 2007 and beyond.
(12) implement the roadmap for medium and long term strategy of the group as developed in AMAWGC	2007-2008	To be carried out as specified.

8.3.8 WGNPBW

Chairs: Frans van Beek and Morten Vinther

Specific TOR for WGNPBW 2007.

a) assess the status of and provide management options for 2008 for:

1. Norwegian spring-spawning herring
2. Blue whiting

b) provide as detailed information as possible on the age/size composition in different segments of the blue whiting fishery;

c) Length distribution of the catch by area are requested as part of the catch reporting..

d) review the catch statistics of blue whiting especially from 1978 to 1990 and resolve differences between ACFM landings, EuroStat and ICES Fishstat data;

e) The chairs will prepare an overview of the differences between the various data sources before 1st May and distribute it to WG members for comments and clarification of differences. Based on the outcome of this exercise, the stock assessment numbers might be updated during the WG meeting in 2007 or 2008.

f) review recent maturity data for Norwegian spring spawning herring and consider the need to update the maturity data in the assessment;

Term of reference (WGNPBW)	**Year**	**Comments**
(1) set appropriate deadlines for submission of data. Data submitted after the deadline can be disregarded at the discretion of the WG Chair.	2007	Data should be submitted to the stock coordinators by 1st June. Data will be collated as soon as possible and before 1st July and copied to the SharePoint to allow an evaluation of data quality and raising procedure.
(2) compile all relevant fisheries data, including data on different catch components (landings, discards, bycatch) and data on fishing effort. Data should be disaggregated by fisheries/fleets.	2007	Data have to be provided in the traditional way using the Salloc exchange spreadsheets. Effort data are less relevant for the stocks but an overview of capacity must be provided. In the future national data will be exchanged through InterCatch. For training/experience purposes data should also be uploaded to the InterCatch before or during the WGNPBW.
(3) assess the state of the stocks according to the schedule for benchmark and update assessments as shown below.	2007	A similar approach as applied for 2006 will probably be applied for 2007. If new Assessment methodology becomes available for blue whiting and Norwegian Spring Spawning (request from NEAFC) it will be evaluated.
(4) provide specific information on possible deficiencies in the 2007 assessments and forecasts, • any major inadequacies in the data on landings, effort or discards; • any major expertise that was lacking • any major inadequacies in research vessel surveys data, • any major difficulties in model formulation or available software. The consequences of these deficiencies for both the assessment of the status of the stocks and the projection should be clarified	2007	Specific tasks: The PGNAPES will be asked to produce maps with distribution of survey effort and resources. This is needed as basis for and *a priory* decision on exclusion of surveys and data years in assessment data.

Term of reference (WGNPBW)	Year	Comments
(5) consider knowledge on important environmental drivers for stock productivity (based on input from e.g. WGRED and for the North Sea NORSEPP). If such drivers are considered important for management advice, incorporate such knowledge into assessment and prediction and comment on the consequences for long term targets of high yield and low risk.	2006-2008	The results from the newest survey in the Norwegian Sea will be presented. The results are used when predicting weight at age for the NSSH
(6) consider existing knowledge of important impacts of fisheries on the ecosystem		No specific activities are planned
(7) Evaluate existing management plans and develop options for management strategies including target and limit reference points. If mixed fisheries are considered important consider the consistency of target reference points and management strategies		The management plan for blue whiting was evaluated in 2006 and no further evaluations is planned for 2007 so far. The mixed fisheries issue is not considered to be relevant for the stocks.
(8) assess the influence of individual fleet activities on the stocks. For mixed fisheries, assess the technical interactions;		The mixed fisheries issue is not considered relevant for the stocks
(9) provide an overview of major regulatory changes (technical measures, TACs, effort control and management plans) and evaluate or assess their (potential) effects.		Is done annually and will be updated
(10) where misreporting and/or discarding is considered significant provide qualitative and where possible quantitative information, by fisheries and the describe the methods used to obtain the information and its influence on the assessment and predictions.		Not considered relevant for the stocks.
(11) present an overview of the sampling on a national basis of the basic assessment data for the stocks considered according to the template that is supplied by the Secretariat		Will be done
(12) implement the roadmap for medium and long term strategy of the group as developed in AMAWGC		
a) assess the status of and provide management options for 2008 for Norwegian spring spawning herring and blue whiting		provide assessments for each stock with full documentation for final assessment. Results of alternative assessments can be presented as summaries of in comparison (see also comment 3)
b) provide as detailed information as possible on the age/size composition in different segments of the blue whiting fishery		This information has to be prepared in advance of the meeting. It is required to support advice to reduce fishing on juvenile blue whiting in areas where it occurs

Term of reference (WGNPBW)	Year	Comments
c) review the catch statistics of blue whiting especially from 1978 to 1990 and resolve differences between ACFM landings, EuroStat and ICES Fishstat data. The chairs will prepare an overview of the differences between the various data sources before 1st May and distribute it to WG members for comments and clarification of differences. Based on the outcome of this exercise, the stock assessment numbers might be updated during the WG meeting in 2007 or 2008.		will be done by the chairs in consultation with the ICES Secretariat
d) review recent maturity data for Norwegian spring spawning herring and consider the need to update the maturity data in the assessment		Is required to support the large change in maturity used in last year assessment for year class 2003. Action by Norway to prepare data to the meeting.

8.3.9 WGNSDS

Chair: Rob Scott

2006/2/ACFM17 The Working Group on the Assessment of northern Shelf Demersal Stocks [WGNSDS] (Chair: R.Scott, UK) will meet from 8-17 May in Galway, Ireland to:

a) assess the status of and provide management options for 2008 for:
- cod, haddock, whiting and megrim in Subarea VI,
- cod, haddock, whiting, plaice and sole in Division VIIa,
- anglerfish in Subarea IV and Divisions IIa, IIIa and VIa;

b) update the catch information for nephrops in Divisions VIa and VIIa;

c) for the stocks mentioned in a) perform the tasks described in C.Res. 2006/2/ACFM01

WGNSDS will report by 21 May 2007 to the attention of ACFM.

Term of reference (WGNSDS)	Year	Comments
(1) Set appropriate deadlines for the submission of data. Data submitted after the deadline can be disregarded at the discretion of the WG chair	2007	Deadline set to 16 April 2007
(2) Compile all relevant fisheries data, including data on different catch components (landings, discards, bycatch) and data on fishing effort. Data should be disaggregated by fisheries/fleets.	2007/8	The compilation of fleet disaggregated effort was addressed at last year's meeting. Tables and information can be updated for 2006. Existing partial information on fleet definitions should be refined and tables completed. More information on Irish Sea discarding should become available for 2008
(3) Assess the status of stocks according to the schedule for benchmark and update assessments as shown below.	Annual	
(4) Provide specific information on possible deficiencies in the 2007 assessments and forecasts, • Any major indadequacies in the data on landings, effort or discards • Any major expertise that was lacking • Any major indadequacies in research vessel surveys data • Any major difficulties in model formulation or available software The consequences of these deficiencies for both the assessment of thes status of the stocks and the projection should be clarified.	Annual	Deficiencies in commercial and survey input data are already noted in the report. Work will continue in 2007 to address these issues.
(5) Consider knowledge on important environmental drivers for stock productivity (based on input from WGRED and for the North Sea NORSEP). If such drivers are considered important for management advice, incorporate such knowledge into assessment and prediction and comment on the consequences for long term targets of high yield and low risk.	2008-9	No specific recommendations from WGRED to NOSH. Information on environmental drivers in Northern Shelf waters is limited. Low priority for 2007 WG except for stocks where evaluation of management strategies requires scenarios of altered stock productivity related to trends in environmental conditions.
(6) Consider existing knowledge of important impacts of fisheries on the ecosystem	2008-9	Little information available at present. Information will be included in the report as and when it is provided.

Term of reference (WGNSDS)	Year	Comments
(7) Evaluate existing management plans and develop options for management strategies including target reference points. If mixed fisheries are considered important consider the consistency of target reference points and management strategies.	2007	Medium priority for 2007 Management plans for West of Scotland Cod and Irish Sea Cod were evaluated at last year's WG meeting. Further work may be conducted to refine and develop these evaluations
(8) Assess the influence of individual fleet activities on the stocks. For mixed fisheries assess the technical interactions.	2008	Must agree fleet definitions first
(9) Provide an overview of the major regulatory changes (technical measures, TACs, effort control and management plans) and evaluate or assess their potential effects.	Annual	Done annually and will be updated in 2007
(10) where misreporting and/or discarding is considered significant provide qualitative and where possible quantitative information, by fisheries and describe the methods used to obtain the information and its influence on the assessment and predictions.	Annual	Misreporting and discarding are significant issues for WGNSDS. Work will continue in 2007 to address this issue. Specific areas of attention will include methods of forecasting future landings from survey based assessments and methods for including discards in the assessments.
(11) Present an overview of the sampling on a national basis of the basic assessment data for the stocks considered according to the template that is supplied by the Secretariat	Annual	The secretariat template will not be supplied this year. Existing tables in the report will be used to display this information. Where possible InterCatch will be run and the results compared to existing data raising procedures.
(12) Implement the roadmap for medium and long term strategy for the group as developed in AMAWGC.	Annual	

8.3.10 WGNSSK

Chair: Chris Darby

No planning table presented.

8.3.11 WGPAND

Chair: Michaela Aschan

No planning table presented

8.3.12 WGSSDS

Chair: Wim Demaré

Specific ToRs:

a) Assess the status of and provide catch options for 2008 for cod, haddock, whiting, and plaice in Divisions VIIbc, VIIe, VIIfg, and VIIhk;

b) Update the catch information for Nephrops in Divisions VIIfgh and VIIa south of 53ºN;

c) For the stocks mentioned in a) perform the tasks described in C.Res. 2006/2/ACFM01.

Term of reference (WGSSDS)	Year	Comments
(1) set appropriate deadlines for submission of data. Data submitted after the deadline can be disregarded at the discretion of the WG Chair.	Annual	Deadlines set
(2) compile all relevant fisheries data, including data on different catch components (landings, discards, bycatch) and data on fishing effort. Data should be disaggregated by fisheries/fleets.	2007 Annual	Compilation of catch compositions by fishery (input from STECF) and compilation of effort series by fishery.
(3) assess the state of the stocks according to the schedule for benchmark and update assessments as shown below.	Annual	
(4) provide specific information on possible deficiencies in the 2007 assessments and forecasts, • any major inadequacies in the data on landings, effort or discards; • any major expertise that was lacking • any major inadequacies in research vessel surveys data, • any major difficulties in model formulation or available software. The consequences of these deficiencies for both the assessment of the status of the stocks and the projection should be clarified	Annual	

Term of reference (WGSSDS)	Year	Comments
(5) consider knowledge on important environmental drivers for stock productivity (based on input from e.g. WGRED and for the North Sea NORSEPP). If such drivers are considered important for management advice, incorporate such knowledge into assessment and prediction and comment on the consequences for long term targets of high yield and low risk.	2008-2009	So far, no environmental drivers identified by WGRED in this region. No priority
(6) consider existing knowledge of important impacts of fisheries on the ecosystem	2008-2009	If this information is available to the working group, it will be described. No priority
(7) Evaluate existing management plans and develop options for management strategies including target and limit reference points. If mixed fisheries are considered important consider the consistency of target reference points and management strategies	2007	Special attention to box closure in Celtic Sea, and management plan for Western Channel sole
(8) assess the influence of individual fleet activities on the stocks. For mixed fisheries, assess the technical interactions;	2008-2009	First priority is to compile the fishery-related data (catch compositions and effort, see above). It was agreed during AMAWGC to not do any mixed fisheries assessments
(9) provide an overview of major regulatory changes (technical measures, TACs, effort control and management plans) and evaluate or assess their (potential) effects.	2007	Input from FTFB
(10) where misreporting and/or discarding is considered significant provide qualitative and where possible quantitative information, by fisheries and the describe the methods used to obtain the information and its influence on the assessment and predictions.	Annual	Overview of misreporting/discarding issues by stock/fishery is available. Misreporting: only in a few cases quantified, impact on the assessment and predictions is not looked at currently Discards: quantitative information available for most stocks. Only in few cases included in the assessment.
(11) present an overview of the sampling on a national basis of the basic assessment data for the stocks considered according to the template that is supplied by the Secretariat	Annual	Start using InterCatch for selected number of stocks
(12) implement the roadmap for medium and long term strategy of the group as developed in AMAWGC	Annual	

9 ICES advisory services

Rapporteur: Mark Tasker

Following instructions from Council, MCAP has been developing a plan for a new advisory process within ICES. A public draft of a possible future structure and process was published on the ICES website in early February 2007. This draft is open to comment by all. Paul Keizer (Chair, ACME) presented this draft to AMAWGC on 19 February. AMAWGC made several comments at this stage, and after further consideration (and a chance to look at the consultation documents), further discussion was held within AMAWGC on 21 February. Key points that were raised during these two sessions are listed below.

Key features of the proposed changes:

1. Drivers for change:
    - advice increasing not occurring in regular annual cycle
    - requirement to further integrate advice
    - requirement for advice on research
    - need for greater flexibility in advice process
    - current three committee system is relatively expensive
2. Main features of new system:
    - reduction in 'advisory layers'
    - advice drafting moved to earlier in process
    - 'straightforward' assessment work occurs prior to working group meetings
    - managers introduced to the system
    - single advisory committee
    - large change in fisheries process; large change in ecosystem/environmental management

Discussion issues raised by AWAWGC [with comments]

1) Risk that assessment work 'in national labs' that occurs ahead of Working Group meetings does not occur.
2) System very reliant on communication at Advisory Committee level
3) Concern about the cost of Advisory Committee [actually costs of this committee will be substantially less than current]
4) Lack of clarity as to how/whether advice would change. Unclear where integration will occur. Better explanation needed
5) Danger of losing current high quality peer review process
6) Critical to attract right people to groups carrying out integration
7) Danger of overload of expert groups (working groups, study groups, planning groups and workshops)
8) Competition with others (e.g. STECF) for experts risks ICES advice not being the best
9) Clear goals needed for change
10) How do the suggestions link to reform of science process? Clarity required
11) Clarity needed in where/how managers can influence system

12) Is any more funding required [idea is to be 'cost-neutral' but opportunities for extra funding and advisory business will be sought]

13) Key feature to change WG activities is to get Terms of Reference right. If these stay the same, then work procedures/methods/culture will not change

14) Stock assessment in labs is goal of ACFM currently, but not achieved widely. Need to examine why

15) A good definition of 'ecosystem approach' would help

16) Risk of losing control of the number crunching part of assessments

17) Number crunching outside/prior to WG may be easier for some assessments than for others

18) Exploratory assessments (e.g. elasmobranches) will still need to happen in working groups

19) Could some of the assessments be contracted out; this would certainly be attractive to national labs [funds not available]

20) A very important link is between MAP and the WG chairs

21) Choice of Managers in MAP critical – need to have wide knowledge of ICES and be able to manage very diplomatically. Managers are potentially a weak point – need a Plan B in the case of a poor Manager

22) Peer review (of assessments) will occur also at expert group level

23) Dual role of PRAG may make it difficult to get balance

24) Consider that procedure between receipt of request and provision of advice is longer than at present, it will be less efficient and more bureaucratic

25) Important to note that Advisory Committee will NOT examine the basis of the advice

26) Need a good system of checks and controls built into the system

27) Unclear on meaning of 'expert groups' [working groups, study groups, planning groups and workshops]

28) Working groups currently function also as a training ground for new assessment scientists. If assessments moved to national labs, then need a method to ensure that training continues to occur. Training courses only a small part of process and have their limitations

29) How will "who does what assessment" be decided?

30) Important that impartial advice is provided and is seen to be provided

31) Do not 'kill off' assessment groups, rather re-orient them

32) How many assessment groups for North Sea?

33) Concern that system is not broken, so why are we changing it

34) Needs to service countries outside EU need to be checked against proposals as their requirements are different from EU requirements

35) The NAFO scientific committee system should be examined to see if it provides an alternative model

36) Can we cut out working group report production? Use of standardised forms and records of process still necessary

37) Can the system be tested first before it is bought in – a phased approach rather than a 'big bang'?

38) Timing between survey and advice might be a problem in some cases

39) Beware that too much change might cause scientists to abandon ICES

40) Could MAP enhance inter-WG communications?

Following other discussions at AMAWGC, the following issues can be added to the list:

41) Need to match QA chain against new Advisory process

42) Working/Expert Groups will also be assessing data quality and identifying research needs

43) Clear audit trails essential, but may have difficulty with process 'outside ICES' in national laboratories

AMAWGC did not present a common position on the proposed advisory reform.

10 Conclusions and recommendations

Regarding WGMG (1.3.1)

WKREF and AMAWGC proposed additional terms of reference which included to review sensitivities of segmented regression e.g. to small changes around origin, to evaluate implicit HCR of ICES PA advice and to evaluate generic properties of 15% catch stabilizing regimes.

There were also recommendations for the WGMG to look at indicators of assessment and advice quality (see below)

Regarding SGASAM (1.3.3)

The need to develop assessment methods for data-poor stocks or stocks that lack age data was highlighted. ACFM does not consider that SGASAM has delivered a final product. Further, models that do not rely on age data are still needed. It was suggested that ICES looks elsewhere, including the results from EU projects to find out about assessment models that do not rely on age-structured data. A way forward could be to focus on some case studies. A Study Group within Methods could address specific questions.

Regarding SGMSAM (1.3.4)

Discussion in AMAWGC centered on the utility of stomach data collected and the great expense that will imply for the National laboratories. There was consensus in the meeting that an ecosystem approach was going to prevail in the advice species interactions will have to be taken into account. Further, information on species interactions were often requested at the level of the National advice.

Regarding the contents of the advisory report 2007 (2)

AMAWGC discussed the contents of the advisory report 2007, which will be similar in structure to the report of 2006. If major changes in the report are implemented, this will be done when the advisory reform is carried through in 2008. The detailed contents of the mixed fisheries overviews and single stock summaries were discussed and some amendments were suggested.

Regarding evaluation of management plans (3)

The SGMAS report was presented. General lesson from the experience so far with evaluation of management plans has been that scientists have tended to assume the interpretation of ambiguities in the management plans. SGMAS recommendation: "it is better to ask than to assume". Dialogue with managers and stakeholder organizations is important.

The request on NEA mackerel will be handled as a case study of the approach advocated by SGMAS.

The EC has implemented a general 15% TAC constraint rule in it's policy options. ICES needs to develop a generic approach to that rule. AMAWGC **recommends** that the WGMG evaluate the generic properties of a 15% TAC change harvest rule.

Regarding ecosystem aspects in fisheries advice (4)

There were joint sessions between AMAWGC and WGRED and WKEFA. WKEFA will examine practical case studies of how environmental drivers can be incorporated into the fisheries advice. There is a need for the WGs to be involved in that process. WGRED identified that the major environmental driver is the general warming of the coastal areas of the NE Atlantic, including the North Sea, Northern shelf and part of the southern shelf areas (including water temperature, plankton indices and NAO). WGRED also suggested some modification to the ecoregion descriptions. The report will include a new overview of the pelagic ecosystem, including the highly migratory stocks of certain pelagic species (mackerel, horse mackerel etc.). Large pelagics were not considered as this was outside the main areas of expertise of the WG. Furthermore, the Iceland and Greenland areas will now to be treated separately.

Regarding mixed fisheries (5)

SGMIXMAN concluded that further development and testing will be required before Fcube can be used in an advisory context. AMAWGC supports that conclusion, but the work with collation and analysis of fleet/fishery data should continue. For many stocks, a graphical presentation of recent trends in catches (and effort) will provide a major step forward. Right now the SGMIXMAN or AMAWG are not able to give specific guidelines on the format of such presentation.

SGMIXMAN suggests to use the "Nantes matrix" (with added mesh size to indicate métier) as a basis for defining fleets/ metier. AMAWGC had no strong opinion on that, even though ICES has not been asked to review the use of this approach.

Data are being collated by STECF working groups using the "Nantes matrix" segmentation. This is a huge task and a similar exercise should not be repeated when ICES needs fleet/fishery data. ICES should invite for an ICES-STECF coordination meeting on a common contents/format of fisheries/fleet data.

WGFTFB is requested to provide guidelines for how to quantify fishing effort from the various fleet segmentations to allow comparison and aggregation of fishing effort.

ICES should contact the EU-Commission (and similar official bodies) to get access to official reported fishing effort statistics.

Regarding reference points (6)

AMAWGC concluded there was nothing in the WKREF report that required assessment working groups to revisit reference points for their stocks and agreed that this would only be carried out where there is a clear need for revision.

Regarding InterCatch (7.1)

The greatest benefits of InterCatch lie in the centralisation of the data used for stock assessments and the historical track of the raising procedures applied to the different data. Before InterCatch becomes the standard program within ICES, an intense testing round is necessary with special focus on the comparison of the results from InterCatch and other raising methods currently used, and with a clear documentation of the underlying causes for possible differences. The testing could be organized at the InterCatch workshops and at the level of the assessment Working Groups. To that aspect workshop participants should bring historical data (for the comparison exercise) to the workshop and data should be put into the right input format for InterCatch before the meeting.

For this year, fishing activities will be defined as they are currently used by the working groups. A revisit of the coding is needed for next year.

Regarding FLR (7.2)

The role of ICES in the FLR development should be clarified. ICES should have at least an overview of the current FLR developments within the working groups. ICES might have a more prominent role in the development phase, but this will be further discussed offline within the ICES secretariat.

Feedback is expected from working groups that used FLR (from working group to ACFM chair / AMAWGC and to FLR Core).

Regarding Datras (7.3)

1) there should be set deadlines for the submission of survey data (e.g. for the Q3 IBTS data no such deadline exists at the moment); 2) the methods working group will be asked to look at incorporating variance estimates in (survey-based) assessments and 3) working groups should use the DATRAS database to retrieve abundance indices where that is possible.

Regarding Benchmark and Update assessments (7.4)

Before WGNSSK meets in 2007, the categorisation of some stocks (especially with regard to the 'observation list' category) should be amended so that they are in line with the definitions.

From 2008 onwards, two categories will be created under the benchmark-update concept: 1) stock on observation list or not 2) benchmark, update or exploratory (experimental) assessment.

The benchmark-update concept needs to be introduced at the review group level

Regarding quality indicators for assessment and advice (7.5)

There is a demand to present the quality control of both the assessment and the forecast (both should be presented separately).

AMAWGC **recommends** that the methods group (WGMG) will be tasked to look at different methods to quantify the quality.

The maintenance of the historical quality database is the responsibility of the ICES secretariat.

Regarding Quality Assurance (7.6)

To assure the quality of aggregated data, InterCatch is introduced at the working group level.

PGCCDBS and the ICES secretariat should closely work together in the further development of standard QA templates.

ICES has to assure consistency in the advice (both in time and space)

Regarding the planning of work for 2007 (8)

All WGs have submitted detailed workplans for 2007 on how they will schedule the generic ToRs over the next few years.

Regarding the advisory reform (9)

AMAWGC devoted two sessions to the discussion of the advisory reform proposal that was presented by Paul Keizer. AMAWGC did not come up with a common position regarding the advisory reform. The contribution of AMAWGC was that a substantial list of issues was raised which need to be taken into account in putting together a final proposal.

11 References

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ICES. 2007c. Workshop on Limit and Target Reference Points, 29 January–2 February, Gdynia, Poland. ICES CM 2007/ACFM:05.

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Annex 1: List of participants

Name	Address	Phone/Fax	Email
Beatriz Roel	CEFAS Lowestoft Laboratory Pakefield Road NR33 0HT Lowestoft Suffolk United Kingdom	+44 1 502 52 4358 +44 1502 524 511	b.a.roel@cefas.co.uk
Chris Darby	CEFAS Lowestoft Laboratory Pakefield Road NR33 0HT Lowestoft Suffolk United Kingdom	+44 1502 524329 +44 1502 513865	chris.darby@cefas.co.uk
Dankert Skagen	Institute of Marine Research P.O. Box 1870 N-5817 Bergen Norway	+47 55 238419 +47 55 238687	dankert.skagen@imr.no
Dominic Rihan	Irish sea Fisheries Board P.O. Box 12 Co. Dublin Dun Laoghaire Ireland	+353 12144104 +353 12300564	Rihan@bim.ie
Einar Hjörleifsson	Hjörleifsson Einar Marine Research Institute Skúlagata 4 IS-121 Reykjavík Iceland		einarhj@hafro.is
Frans van Beek	Centre for Fisheries Research P.O. Box 68 NL-1970 CP IJmuiden Netherlands		frans.vanbeek@wur.nl
Jim Ellis	CEFAS Lowestoft Laboratory Pakefield Road NR33 0HT Lowestoft Suffolk United Kingdom	+44 1502 524300 +44 1502 513865	jim.ellis@cefas.co.uk
Jørgen Dalskov	Danish Institute for Fishery Research Department of Sea Fisheries Charlottenlund Slot DK-2920 Charlottenlund Denmark	+45 33 96 33 80 +45 33 96 33 33	

Manuela Azevedo	Azevedo Manuela IPIMAR Avenida de Brasilia PT-1449-006 Lisbon Portugal	+351 21302 7000	mazevedo@ipimar.pt
Mark Dickey-Collas	Wageningen IMARES Haringkade 1 NL-1976 CP IJmuiden Netherlands	+31 255 56 46 85 +31 255 56 46 44	mark.dickeycollas@wur.nl
Mark Tasker	Joint Nature Conservation Committee JNCC Dunnet House 7 Thistle Place AB10 1UZ Aberdeen United Kingdom	+ 44 1 224 655 701 + 44 1 224 621 488	mark.tasker@jncc.gov.uk
Martin Pastoors	ICES H. C. Andersens Boulevard 44-46 DK-1553 Copenhagen V Denmark	+45 33 38 67 48	Martin@ices.dk
Michaela Aschan	University of Tromsø The Norwegian College of Fishery Science N-9037 Tromsø Norway	+47 99261 458 +47 77646 020	michaela.aschan@imr.no
Mike Breen	FRS Marine Laboratory P.O. Box 101 AB11 9DB Aberdeen United Kingdom	+44 1224 876544 +44 1224 295511	breenm@marlab.ac.uk
Morten Vinther	Danish Institute for Fishery Research Department of Sea Fisheries Charlottenlund Slot DK-2920 Charlottenlund Denmark	+45 33 96 33 53 +45 33 96 33 33	mv@difres.dk
Paul Keizer	Dept. of Fisheries & Oceans Bedford Institute of Oceanography P.O. Box 1006 Dartmouth NS B2Y 4A2 Canada	+1 902 426 6138 +1 902 426 6695	keizerp@mar.dfo-mpo.gc.ca
Paul Marchal	IFREMER Boulogne-sur-Mer Centre P.O. Box 699 F-62321 Boulogne Cedex France	+33 321995616 +33 321995601	paul.marchal@ifremer.fr

Robert D. Scott	CEFAS Lowestoft Laboratory Pakefield Road NR33 0HT Lowestoft Suffolk United Kingdom		r.d.scott@cefas.co.uk
Steen Christensen	Danish Institute for Fishery Research Department of Sea Fisheries Charlottenlund Slot DK-2920 Charlottenlund Denmark		sc@difres.dk
Stuart Reeves	CEFAS Lowestoft Laboratory Pakefield Road NR33 0HT Lowestoft Suffolk United Kingdom	+44 (0)1502 524510 +44 (0)1502 513865	stuart.reeves@cefas.co.uk
Wim Demaré	Sea Fisheries Department Ankerstraat 1 B-8400 Ostende Belgium	+32 59 34 2258 +32 59 33 0629	wim.demare@dvz.be
Yuri A. Kovalev	PINRO 6 Knipovitch Street RU-183763 Murmansk Russian Federation	+7 8152 472 469 +7 8152 473 331	kovalev@pinro.ru

Annex 2: Meeting documents

Doc 01 Agenda.doc

Doc 02 Document list.doc

Doc 03 ToR.doc

Doc 04 Annex 2006-67 neafc request to ices1711 fin.doc

Doc 04 special request table - 2007.doc

Doc 05 Discussion document on advisory reform.doc

Doc 06a SGMAS report.doc

Doc 06b Letter of approach to mackerel MSE.doc

Doc 07 SGMIXMAN07 Draft1_1.doc

Doc 09 SGASAM06.doc

Doc 11 sgmsns06.doc

Doc 12 annex wgmg recs 2006.doc

Doc 12 wgmg06.doc

Doc 13 WGECO06.pdf

Doc 15 wkefaToR07.doc

Doc 16 draft ToC Advisory report 2007.doc

Doc 17 Benchmark and update assessments.doc

Doc 20 AMAWGC 2007 Participants address database.aspx

Doc 20 AMAWGC 2007 participants.xls

Doc 21 Sharepoint and W-drive.doc

Doc 22 InterCatch Manual draft.doc

Doc 22b Sharepoint for WGs.doc

Doc 23 ICES MoU from 2007 draft ver 9.doc

Doc 26 Assessment Working Group responsibilities.doc

Doc 27 Review group guidelines.doc

Doc 28 generic TORS in table.doc

NEAFC request 2007.doc